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ABSTRACT

This book discusses the prevention of problems and the promotion of success for school children today. Chapters include: (1) "Preventing Aggression and Violence" (George G. Bear, Carolyn Webster-Stratton, Michael J. Furlong, and Sabrina Rhee); (2) "Promoting Social and Emotional Competence in Children" (Joseph E. Zins, Maurice J. Elias, Mark T. Greenberg, and Roger P. Weissberg); (3) "Promoting School Readiness" (Janet E. Panter and Bruce A. Bracken); (4) "Promoting Achievement Motivation" (Anastasia S. Morrone and Paul A. Schutz); (5) "Preventing Academic Failure" (Nancy Waldron and James McLeskey); (6) "Promoting Successful School Completion" (Sandra L. Christenson, Mary F. Sinclair, Camilla A. Lehr, and Christine M. Hurley); (7) "Preventing Substance Use and Abuse" (Gilbert J. Botvin and Kenneth W. Griffin); (8) "Preventing Early Sexual Behavior: Sociopolitical Issues and the Design of Empirically Supportable School Based Interventions" (Adena B. Meyers and Steven Landau); (9) "Promoting Physical Health" (Ruth Saunders and Russell Pate); and (10) "Preventing School Problems and Promoting School Success through Family-School-Community Collaboration" (Kathleen M. Minke). (Contains 2 figures, 38 tables, and over 800 references.) (JDM)

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Preventing School Problems – Promoting School Success

Strategies and Programs That Work

Edited by:
Kathleen M. Minke, Ph.D.
George C. Bear, Ph.D.
University of Delaware

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Edited by:

Kathleen M. Minke, Ph.D., and
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Preface

As we enter a new century, educators must respond to many of the same problems that they faced throughout much of the 20th century. For example, children's "lack of discipline/control" in school remains a primary concern among the general public, as it has been nearly every year since the annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools began 30 years ago (Rose & Gallup, 1999). However, violence/gangs, use of drugs, and crime/vandalism are also high on the public's list of concerns—problems that were much less serious earlier in the century. Not included in the poll, but of grave concern among educators, are other health risk behaviors among high school students (Centers for Disease Control [CDC], 1998). Consider the following data regarding adolescent behavior:

- 7.7% attempt suicide;
- 16.9% drive a vehicle after drinking alcohol and 36.6% ride in a vehicle with a driver who has been drinking;
- 18.3% carry a weapon;
- 19.3% rarely or never wear a seat belt;
- 16.7% smoke cigarettes regularly;
- 16% have sex during the school years with four or more partners (about half of sexually active students use a condom); and
- 27.3% perceive themselves as overweight.

Such risk behaviors often have much more dire consequences than the common problem of lack of discipline. Indeed, 73% of all deaths among children and young adults 10 to 24 years of age are caused by motor vehicle accidents, other unintentional injuries, homicide, and suicide (CDC, 1998).

Fortunately, increasing numbers of educators are acutely aware that the above problems and/or their consequences are *pre-*

ventable—that prevention-oriented strategies and programs can decrease the above incidence rates and do so in a more cost effective manner than traditional treatment-oriented programs (Durlak, 1997). For example, the federal government recently reported that overall violent juvenile crime (e.g., murder, rape, robbery and aggravated assault) has fallen 30% since 1994 (CDC, 1999b). Decreases were found in every category of violent crime, including a decrease of almost 50% in arrests for murder and a decrease of 33% in arrests for weapons law violations. Such decreases were attributed not only to increased policing and stiffer sentences for repeat violent offenders (CDC, 1999b), but also to programs and practices designed to address a number of individual and social factors often associated with violent crime (e.g., poor academic achievement, exposure to violence, poor supervision by parents, etc.). Likewise, the national Centers for Disease Control and Prevention recently reported that after peaking in 1991, the pregnancy rate among teenagers declined 15% (CDC, 1999a). The decline was largely attributed to preventive measures: increased contraceptive use and a leveling off of sexual activity—two variables frequently targeted in education programs.

In light of such findings, and with strong encouragement from professional organizations representing teachers, school psychologists, school counselors, and others, the U.S. Department of Education has recently funded multiple school-based programs that focus on prevention (e.g., Safe and Healthy Schools Initiative). These and other funding initiatives should allow schools to focus more on prevention rather than on treatment. But if such a change in focus is to be fruitful, it is critical that the providers of prevention-oriented strategies and programs are knowledgeable and skilled in their implementation. Helping to provide school psychologists and other educators with such knowledge is the primary purpose of this book.

The volume's title reflects our view that prevention of problems and promotion of success are two sides of the same coin. In order for children to reach their potential they must achieve healthy development across social/emotional, intellectual, and physical domains. Therefore, we chose chapter topics to address each of these major developmental areas.

The first two chapters address children's social-emotional development. Bear and colleagues take a careful look at the phenomenon of school violence and the aggressive behaviors associated with it. Multiple strategies and programs are reviewed, along with the empirical evidence available regarding their efficacy. This chapter allows readers to quickly sort through an extremely large number of program evaluations and studies and should be invaluable in program planning. Similarly, Zins and colleagues define social emotional learning (SEL) as an integral part of the school's curriculum. They provide detailed information about how to select and implement SEL activities and how school psychologists can be involved in this critical task.

Chapters 3 through 6 address important academic issues critical to children's school success. Panter and Bracken describe a multi-dimensional approach to school readiness and suggest ways in which school psychologists can address child, family, and school variables that impact children's early school success. Morrone and Schutz review the implications of social cognitive, attribution, and achievement goal theories for promoting student motivation. Noting that the success of any innovation depends on whether teachers actually use it, Waldron and McLeskey describe various instructional methods that are not just empirically supported but also have a high degree of teacher acceptability. Christenson and colleagues complete the academic section by discussing issues of student engagement and sense of belonging at school as key elements in successful school completion.

The next three chapters address issues relevant to the physical health and wellness of students. Botvin and Griffin offer a review of strategies for the prevention of substance use and abuse. This chapter highlights the "Life Skills Training Program" and provides detailed information on how to analyze the quality of the many substance use prevention programs available. Meyers and Landau address the politically sensitive question of adolescent sexuality and preventing unwanted pregnancy. The chapter will allow school psychologists to go beyond rhetoric in providing information to policymakers in their districts. Finally, Saunders and Pate discuss issues related to nutrition and physical activity, topics rarely included in school psychology training but critical to children's overall development.

The last chapter by Minke serves as an epilogue to the book. This chapter highlights the need for model programs to be *translated* to the local context rather than simply applied "as is." By developing their skills in collaboration, as outlined in the chapter, school psychologists can mobilize school, family, and community resources toward the prevention of school problems.

For ease of use, each chapter follows the same basic organization. First, authors provide background information related to a specific issue. This section answers the question: What are we trying to prevent and/or promote and why? Then, authors present empirically-supported strategies that are found across prevention programs related to the topic. This section represents a distillation of "what works" from a variety of research and model program sources. Limitations of the current research base are also addressed. Finally, authors describe one or more model programs that illustrate the effective strategies outlined in the previous section. This section will be useful to school psychologists, administrators, and community health providers who are interested in larger scale prevention efforts. It will answer the question: What models are available to help me plan a school- or district-wide prevention activity? Although any program must be adapted to local contexts, the strategies and programs described provide data for local analysis.

School psychologists are the primary targeted audience for the book; however, it is anticipated that other school-based staff (e.g., administrators, teachers, school counselors) will recognize the value of the volume. Because it contains recent research data, the book will be useful to seasoned practitioners as well as students and new professionals facing particular problems or issues for the first time. We anticipate that the book also will be useful in graduate classes in community psychology, educational leadership, and school psychology.

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KMM
GGB

- Dedication -

In memory of our mothers, Bette Minke and Edna Davenport, whose tireless primary prevention efforts were instrumental in our developmental outcomes.

CHAPTER 1:
Preventing Aggression & Violence

George G. Bear, ***University of Delaware***
Carolyn Webster-Stratton, ***University of Washington***
Michael J. Furlong, ***University of California at Santa*** **Barbara**
Sabrina Rhee, ***University of California at Santa Barbara***

> *No matter how effective, motivated and attentive any of us is as a parent, our children go to school with boys who are lost and who have access to lethal weapons. Knowing how these boys reach this point and what we can do to reclaim them empowers us to reduce the odds that they will commit acts of lethal violence. (James Garbarino, 1999a, p. 3)*

With the occurrence of multiple homicides on school campuses during the 1997-1998 and 1998-1999 academic years—such as in Springfield, Oregon and Littleton, Colorado—there has been a growing public perception that an increasing number of students may "go off" at any time and cause serious harm to themselves and/or others. In response to this perception, school administrators, lawmakers, and prosecutors have recently "cracked-down" on juvenile violence. Metal detectors, security guards and police, crisis drills, "zero tolerance" discipline policies, and alternative programs for aggressive children are now found in many schools that previously saw little need for such measures. Several states now require that children who commit violent crimes be tried as adults. Lawmakers have also proposed school prayer, mandatory student uniforms, mandatory use of "ma'am" or "sir" when responding to teachers, and the school-wide posting of the Ten Commandments as partial solutions to the widely perceived rising tide of school violence. Although well intended, too often such "solutions" have been misguided, based on little, if any, empirical research supporting their effectiveness in preventing school violence and promoting children's mental health. Moreover, they have been based on the faulty premise that school violence has increased rapidly during the past few years (Skiba & Peterson, 1999).

As shown in several recent national studies, nearly all acts of violence, including both criminal and noncriminal acts, actually declined significantly during the past decade (Brener, Simon, Krug, & Lowry, 1999; U.S. Department of Education [DOE], 1999)—before most schools adopted "school safety" and "school violence" programs in response to the 1997-to-1999 rash of school shootings widely portrayed by the media. In actuality, schools are relatively safe and free from acts of violence. Serious violent crimes (i.e., physical attack or fight with a weapon, robbery, murder, suicide, rape, or sexual battery) are rare, with 90% of schools reporting no such incidents during the 1996-97 school year (DOE, 1999). Fewer than 1% of homicides and suicides among school-aged children occur at school (Kachur et al., 1996).

Although serious violent crimes are rare, other acts of aggression are quite common. One or more incidents of less serious crimes involving aggression (i.e., physical attack or fight without a weapon, theft or larceny, vandalism) are reported by 47% of our schools (DOE, 1999). Most common, however, are noncriminal acts of aggression, such as bullying, teasing, and rejecting peers. Although not criminal acts per se, these behaviors nevertheless often result in emotional harm to others. Few classrooms, playgrounds, and lunchrooms are exempt from such aggressive behaviors. However, because these behaviors are normative and do not necessarily entail physical harm, not all researchers view them as acts of "violence," reserving this term for non-normative, intentionally aggressive acts that are extreme, or serious, and that result in physical harm to another person (Elliott & Tolan, 1999).

The above distinction between violent and aggressive behavior is an important one: Violence is rare in schools, whereas aggression is quite common. Despite the importance of this distinction, educators seldom differentiate between violence and aggression. Instead, school violence is generally conceptualized broadly to include all acts of aggression, irrespective of severity. Thus, from the perspective of many educators and developers of intervention programs, school violence entails a broad spectrum of antisocial and aggressive behavior, including criminal violent acts, fighting, bullying, teasing, anger-control problems, sexual harassment, property damage, and weapon possession. An unfortunate result of fusing non-normative violent acts of aggression with normative acts of aggression is the risk of employing interventions that are either too harsh or too mild for a given school. For example, security cameras and security guards would be appropriate in those schools experiencing frequent acts of violence, but inappropriate in the vast majority of schools.

In this chapter we review interventions designed to address aggression and violence in the schools. Consistent with the book's focus, emphasis is placed on primary-level preventive interventions (i.e., universal strategies and programs designed to prevent future aggression and violence among all students) and secondary-level preventive interventions (i.e., strategies and programs that target those students who already demonstrate early signs of aggression or are otherwise at-risk for future aggression or violence). Tertiary-level preventive interventions (i.e., strategies and programs designed to improve the behavior of those students who have a history of aggressive or violent behavior) are not reviewed, with the exception of those strategies and programs, such as parent training, that have clear implications for practice at the primary and secondary levels of prevention. In the first part of the chapter we review current models of aggression—models that explain the various pathways to aggression and violence. Next, we review strategies and programs for preventing or curtailing the future occurrence of aggression and violence in the schools.

PATHWAYS TO SCHOOL VIOLENCE: WHY DID THIS HAPPEN?

Multiple Factors, Differing Theoretical Perspectives

Interest in school violence as a focus of scientific and clinical research evolved initially not from educational researchers and practitioners but from researchers in the fields of public health, delinquency, and developmental psychology (Furlong & Morrison, in press). Consequently, current models used to understand the phenomenon of school violence have of necessity drawn upon theories that were developed to explain the etiology of youth antisocial behavior in general, including violence. Of particular application to the schools are developmental theories that explain age differences in aggression and their relation to various intraindividual and environmental factors: biological and temperament risk factors, family dysfunction, ineffective parenting, peer association with deviant peers, poor school climate and classroom management strategies, and community risk factors. Although these factors, and many others, have been associated with aggressive behavior, research shows that there are no clear-cut univariate links between risk factors and a child's aggressive behavior. That is, risk factors are intertwined, synergistic and cumulative (Hawkins, Catalano, & Miller, 1992; Reid & Eddy, 1997).

Thus, contemporary models of aggression recognize that multiple factors influence aggression in a complex and reciprocal fashion. With implications for practice, most models view many risk factors, such as substance abuse, academic failure, and peer rejection, as (a) evolving from the same etiology, or process, as aggression; (b) comorbid or potentiating factors that foster future aggression; (c) outcomes of aggression and its correlates; or (d) a combination of the above (Cicchetti, 1993). An example of the complex and reciprocal relation between aggression and multiple risk factors follows. A student whose temperament is characterized by hyperactivity, impulsivity, and inattentiveness will be more difficult to parent or teach. In turn, the student is more likely to be subject to harsh and punitive discipline rather than encouragement. This critical parenting and/or teaching style not only fails to promote prosocial behavior in the temperamentally difficult student, but also provides negative models of behavior, thereby further impeding the student's development of adaptive social-cognitive skills. High levels of family stress, such as that associated with unemployment, marital difficulties, and moving, often contribute to ineffective parenting, resulting in the decreased parental support of the child's academic and social success in school.

Upon entering school the student's behavioral and academic problems are likely to result in frequent discipline from the teacher and rejection by peers. In turn, frequent discipline and peer rejection are likely to lead to decreased opportunities to learn and practice both academic and social skills and to distancing of the student's parents from the student, as well as from the school. Moreover, teachers may misunderstand the reasons for the parents' lack of involvement and respond more critically to the parents, failing to provide the support the parents desperately need, which further erodes the bonds between the home and school. Thus, various risk factors lead to an unfolding cycle of events over time that result in cumulative effects on a child's vulnerability. A critical implication of this developmental, multirisk factor view of conduct problems is that in order to be effective, school-based intervention programs must be comprehensive, begin early, and address both risk and protective factors. Common risk and protective factors related to aggression appear in Table 1, divided for heuristic purposes into three major categories: intraindividual, classroom/ school, and home/community/peers.

Many of the factors in Table 1 have been recently incorporated into "Early Warning" guides. For example, after the school shootings in Jonesboro, Arkansas, Springfield, Oregon, Littleton, Colorado and similar tragic events elsewhere, the U.S. Department of Education, the American Psychological Association, and the National School Safety Center developed lists of indicators associated with perpetrators of violent acts on school campuses. These indicators are shown in Table 2. It should be noted that the indicators are for youthful perpetrators and not the approximately 30% of perpetrators of physical violence at school who are adults. Moreover, it should be emphasized that these indicators are based on the consensus of opinion among experts, and not necessarily on empirical research.

With respect to empirical research on indicators or predictors of violent behavior, studies emanating from the risk and resiliency literatures have shown how a combination of intraindividual, family, school, and community factors are associated with the arrest of males for violent offenses by age 18. Based on a thorough review of longitudinal studies of violent behavior, Hawkins et al. (1998) identified such factors, as shown in Table 3. These risk factors are highly predictive of *violent* offenses from as early as age 10. When a student has a combination of these factors, the likelihood that he or she will be arrested for a violent offense increases dramatically. For example, Hawkins et al. (1998) found that whereas only 3% of youths with zero risk factors were arrested for a violent offense, this figure increased to over 30% among those with five risk factors.

Likewise, providing a perspective on the complementary roles played by risk and resiliency factors, Sullivan and Farrell (1999) found that the power of predicting antisocial behavior such as the use of drugs markedly increases when five risk factors are present and no protective factors or resources are available. As emphasized in this chapter, school psychologists should be well aware that no single risk or resiliency factor is vastly more predictive than another, the predictive power of these factors fluctuates with the age of the student, and that it is the complex interaction of contextual, individual, and situational factors that determines behavior.

TABLE 1
Factors Related to Aggressive and Disruptive Behavior in the Classroom

I. INTRAINDIVIDUAL FACTORS

Behavioral Domain

- Behavioral excesses
- Behavioral deficiencies
- Externalizing and internalizing behaviors
- Poor communication skills
- Poor self-management skills, including poor impulse and control

Social-cognitive Domain

- Biased attributions of hostility
- Beliefs, values, and standards
- Social goal setting
- Perception of goal blocking, threat, or derogation to one's ego and esteem
- Self-efficacy beliefs
- Self-perceptions of competence/adequacy and social support
- Specific social problem solving skills
- Specific social information processing skills
- Social perspective taking, interpersonal understanding, and negotiation strategies
- Distortions in moral reasoning

Emotional Domain

- Insensitivity, empathy
- Guilt and shame
- Pride
- Loneliness/Depression
- Anger
- Difficult temperament
- Self-concept

Health Domain

- Effects, and side effects, of medication
- Nutrition
- Sleep
- Attention-deficit disorder
- Alcohol and drug use
- Neuropsychological deficits (likely causes: maternal drug abuse; poor prenatal nutrition; pre- or postnatal exposure to toxic agents (e.g., lead); brain injury during delivery; genetically inherited differences; nutrition; lack of stimulation or affection; child abuse and neglect)
- Psychophysiological indicators such as low resting heart rate and low skin conductance
- High levels of testosterone
- Neurotransmitters, such as low CSF 5-HIAA

II. CLASSROOM/SCHOOL FACTORS

- Teacher/school expectations, goals, commitment
- Proactive classroom management
- Relationship between student(s) and teacher
- Physical environment
- Instructional skills (frequent repetition, pacing of instruction, etc.)
- Motivational strategies
- Disciplinary procedures used to correct behavior problems
- Curriculum (difficulty, length, practice, interest)
- Unfair rules and disciplinary practices
- Student involvement and acceptability of discipline
- Degree of emphasis on external control, reinforcement vs. consequences
- Consistency in procedures across classes
- Building/district policies
- Class size, school size
- School atmosphere
- Availability of resources (within and outside of school)
- Home/school communication and collaboration
- Staff qualifications

III. HOME/COMMUNITY/PEER FACTORS

- Parenting style: Overly authoritarian, permissive, authoritative?
- Verbal/physical aggression in home or community
- Communication between parents and child
- Supervision and monitoring of behavior
- Different values/expectations between home/school
- Parental values, beliefs, behaviors
- Family stressors (including drugs, alcohol, poverty, divorce, large family size)
- Lack of academic support
- Low parental expectations
- Steady diet of exposure to violent behavior on TV, CDs, and video games
- Being a victim of aggression
- Availability of weapons
- Availability of drugs
- Community crowding, norms, values
- Norms, values, beliefs among peers that support aggression
- Peer models
- Peer rejection

TABLE

Early Distress Indicators Associated with Aggressive Behavior as Identified by the United States Department of Education (DOE), American Psychological Association (APA), and the National School Safety Center (NSSC)

Distress Indicators	**DOE**	**APA**	**NSSC**
Social withdrawal	■	■	■
Excessive feelings of isolation and being alone	■	■	
Excessive feelings of rejection	■	■	
Being a victim of violence	■	■	■
Feelings of being picked on and persecuted	■		
Low school interest and poor academic performance	■	■	
Expression of violence in writings and drawings	■		■
Uncontrolled anger	■	■	■
Patterns of impulsive and chronic hitting, intimidating, and bullying behaviors	■	■	
History of discipline problems and/or frequent run-ins with authority	■	■	■
Past history of violent and aggressive behavior or suicide attempts	■	■	■
Intolerance for differences and prejudicial attitudes	■		
Drug use and alcohol use	■	■	■
Affiliation with gangs or "fringe" groups	■	■	■
Inappropriate access to, possession of, and use of firearms	■	■	■
Serious threats of violence	■	■	■
Resorts to name calling, cursing, abusive language	■		
Preoccupied with weapons, incendiary devices, explosives	■		
History of truancy, suspensions, expulsions	■		
Displays cruelty to animals	■	■	
Little supervision from caring parent or adult	■		
Has been bullied or a victim of chronic bullying	■	■	
Blames others for problems he or she causes	■		
Consistently prefers media with violent themes or acts	■		
Prefers reading materials with violent themes, rituals, and abuse	■		
Often depressed or has significant mood swings	■		
Feeling constantly disrespected	■		
Failing to acknowledge the feelings or rights of others	■		

Note. Based on reports by the U.S. Department of Education (DOE) (Dwyer, Osher, & Warger, 1998), American Psychological Association (APA; 1999), and National School Safety Center (NSSC; 1999).

TABLE
Odds Ratios for Risk Factors Associated with Commission of Violent Crime at Age 18 Based on Characteristics at Ages 10, 14, and 16

FACTOR	AGE 10	AGE 14	AGE 16
Individual Factors			
Gender (Male)	2.31		
Hyperactivity (Teacher Rating)	2.17	1.98	
Hyperactivity (Parent Rating)		2.11	1.96
Risk-Taking Behavior		3.18	3.50
Selling Drugs		3.34	4.55
Early Violent Behavior (ages 12 -13)		3.71	
Proviolence Attitudes		2.09	
Family Factors			
Parental Violent Behavior		1.84	1.35
Parental Criminality		2.16	2.03
Poor Family Management	1.29	2.11	2.63
Family Conflict	1.05	16.1	2.16
Parents' Proviolence Attitudes	2.32		2.69
Residential Mobility		1.32	
School Factors			
Low Academic Performance	1.65	2.05	2.71
Low School Commitment	1.10	1.76	1.80
Low Educational Aspirations	1.20	1.86	1.60
School Transitions		1.82	2.97
Antisocial Behavior (Teacher Ratings)	2.66		
Peer Factors			
Sibling Delinquency	1.79	1.40	2.26
Peer Delinquency	2.25	2.82	3.95
Gang Membership		3.39	4.58
Community			
Economic Deprivation	1.61	1.33	1.51
Community Disorganization		2.19	3.16
Low Neighborhood Attachment	1.54	1.00	1.69
Easy Availability of Drugs	1.77	2.63	3.09
Neighborhood Adults Involved in Crime		3.15	3.90
Proviolence Community Norms		1.11	1.38
Classification Accuracy Across Factors			
Correct Prediction of Violence at age 18	80.4%	84.3%	83.9%
% False Predictions of Violence	1.2	1.5	4.2
% False Predictions of No Violence	18.4	14.2	12.9

Note. Data are from "A Review of Predictors of Youth Violence" by J. D. Hawkins, T. Herrenkohl, D. P. Farrington, D. Brewer, R. E. Catalano & T. W. Harachi, (1998). In R. Loeber & D. P. Farrington (Eds.), *Serious & violent juvenile offenders: Risk factors and successful interventions* (pp. 106-146). Thousand Oaks, CA: Sage. Copyright 1998 by Sage. Adapted with permission.

In light of this complexity, researchers have recently focused on building models of aggression that integrate different theoretical perspectives, with the understanding that one theoretical perspective alone cannot adequately explain the multiple factors related to aggression from birth to adulthood. Such an integrated, multifeature, developmental approach to model building is evident in each of the models profiled below: (a) the *social learning model* (Dishion, French, & Patterson, 1995; Patterson, Capaldi, & Bank, 1991), (b) the *social information processing model* (Crick & Dodge, 1994; Dodge, 1993), (c) the *cognitive neoassociationistic model* (Berkowitz,1989a, 1990a, 1990b) and (d) the *life-course persistent and adolescent-limited model* (Moffitt, 1993a, 1993b).

These perspectives provide the conceptual frameworks with which to better understand how various risk and resilience factors are associated with chronic and/or violent aggression. In addition to helping practitioners understand the "why" about aggression in schools, these contrasting perspectives should help guide practitioners in selecting and developing programs for preventing aggression. We should note that the social learning and social information processing models are highlighted because of the large number of research studies they have generated and also because of their direct linkages to prevention and intervention programs. As seen later, nearly all popular school violence programs, especially those of demonstrated effectiveness, employ strategies devised from social learning and social information processing models of aggression. Although Moffitt's and Berkowitz's models have yet to generate many intervention programs, their inclusion provides contrasting viewpoints with respect to what is considered the primary determinants of aggression, with Moffitt emphasizing neurological components of aggression and Berkowitz emphasizing the interaction between cognition, emotions, and contextual factors.

Social Learning Model

Based on social learning theory and several decades of research, Patterson and colleagues at the Oregon Social Learning Center have successfully identified a variety of proximal and distal factors related to aggression and antisocial behavior (Dishion et al., 1995; Patterson et al., 1991). Such factors are incorporated into their comprehensive model of antisocial behavior—a model that guides perhaps the greatest number of intervention programs seen in today's schools and mental health centers. The model emphasizes the importance of proximal factors linked to aggression, especially antecedents and consequences of behavior occurring in everyday social exchanges between children, siblings, and parents within dysfunctional families. The model also can be applied to social exchanges between children and teachers.

It is within the context of everyday social exchanges between family members, beginning in early childhood, that noncompliant and aggressive patterns of behaviors are directly taught. That is, verbal and physical aggression is learned, through the modeling of overly harsh, coercive, and inconsistent discipline and the reinforcement, both negative and positive, of a variety of antisocial behaviors and cognitions.

The family environment of aggressive children and adolescents is one of coercion. That is, family interactions are often characterized by a family member using verbal or physical aggression to stop another family member from irritating him or her or from interfering with his or her goals. Negative reinforcement, and to a lesser extent positive reinforcement and modeling, play a major role in the learning and maintenance of coercive behavior. The typical coercive process entails a parent making a demand; the child ignoring, arguing, or otherwise not complying; the parent demanding more harshly; continued noncompliance by the child (perhaps escalating to increased arguing, whining, or threats to the parent); and finally the parent failing to enforce the demand. In this case, the child "wins" by not having to comply and by getting the parent to quit bothering him. In other cases, however, the parent is likely to respond to continued noncompliance with increased verbal or physical aggression until the child eventually complies. In either case, coercive behavior is reinforced, and thus is likely to be repeated.

As aggression becomes effective in controlling others and reducing or eliminating events perceived to be aversive (Eron, Huesmann, & Zelli, 1991), skills of coercion are repeatedly practiced, often at the expense of learning and practicing prosocial and adaptive behaviors. Hence, parents of aggressive children not only directly teach aggression, but also fail to consistently model and reinforce prosocial, problem-solving behavior. Moreover, they fail to support academic achievement and effectively monitor and supervise their children's behavior (Webster-Stratton, 1985a).

The above proximal variables have repeatedly been shown to contribute markedly to the early, and continued, development of antisocial behavior (Patterson et al., 1991). For example, Patterson (1986) found that parenting and family interaction variables accounted for 30% to 40% of the variance in children's antisocial behavior. In addition to factors specific to social interactions, researchers have implicated a variety of more distal factors, especially family and community factors that contribute to poor parental discipline and monitoring. Primary among these distal factors are socioeconomic disadvantage and correlates thereof, such as single parenting, family conflict, and substance abuse (Tolan, Guerra, & Montaini-Klovdahl, 1997). For example, Dodge, Pettit, and Bates (1994) found socioeconomic disadvantage to correlate with harsh discipline, lack of maternal warmth, exposure to aggressive adult models, maternal aggressive values, family life stressors, mother's lack of social support, peer group instability, and the lack of cognitive stimulation. These factors accounted for over half of the variance in teacher-rated externalizing problems and peer-nominated aggression. Consistent with Patterson's coercion model, harsh discipline was found to be the strongest single predictor of behavior problems.

It should be emphasized that although the relation between harsh discipline and children's aggression is a robust finding, recent research suggests that this relation is moderated by the overall quality and warmth in the parent-child relationship. For example, Deater-Deckard, Dodge, Bates, and Pettit (1996) found that the relationship between harsh discipline and externalizing problems held only among children in homes in which a warm child-parent relationship was lacking. Likewise, in a recent review of research on risk and resilience, Doll and Lyon (1998) concluded that a warm relationship with at least one caregiver was a strong protective factor against the negative influences of family dysfunction. This finding was supported by the results of a large national study of adolescent development that showed that youth who report positive relationships and bonding with their families and schools engage in less risky and fewer antisocial behaviors (Resnick et al., 1997). Family life stressors, many of which are related to socioeconomic disadvantage, contribute to poor parenting and parent-child relationships.

Parents of children with conduct problems report major stressors at a rate two to four times greater than for families with typically developing children (Webster-Stratton, 1990a). They also report more day-to-day hassles or minor stressors. An accumulation of day-to-day stressors can have effects similar to those of major stressors, disrupting parenting and leading to increased rates of coercive behavior and irritability in the parents' interactions with their children (Forgatch, Patterson, & Skinner, 1988). Parents who are stressed, depressed, and demoralized are less likely to be able to provide the supportive parent management strategies, as well as cognitive stimulation, necessary to foster a child's academic performance and social behavior at school. As proposed by Wahler and Sansbury (1990), highly stressed mothers are less able to screen out extraneous information (e.g., negative interchanges with neighbors or spouse), causing them to react inconsistently or indiscriminately to their children's behavior.

Numerous studies have shown that stress-inducing experiences characterize the homes of aggressive children and that the effects of stress on children are mediated by poor parent management practices (Patterson, Capaldi, & Bank, 1991). From a developmental perspective, such poor parenting begins a spiraling pattern of aversive behavior in home, school, and community. In this pattern, discipline problems become associated with (a) poor academics; (b) rejection by peers, teachers, and parents; (c) increased noncompliance and aggression toward others; (d) feelings of alienation and poor self-concept; and (e) an eventual drift toward deviant peers who share and support the child's behavior, cognitions, and feelings.

In sum, the social learning model highlights the confluence of multiple factors on the development of aggression from early childhood to adolescence. It explains the early onset and stability of aggression among the chronically aggressive, or life-course persistent aggressors. Although modeling and reinforcement of aggressive behavior by parents are recognized as playing a primary role in the development of aggression, they are not viewed as the only processes linked to aggression and the failure to self-regulate. The role of social cognitive and emotional variables are also recognized (Snyder & Patterson, 1995), as are the influences of violent television shows (Hughes & Hasbrouck, 1996) and violence in one's community (Gorman-Smith & Tolan, 1998).

Social Information Processing Model

Social information processing theory emphasizes the active role of cognition in social adjustment (Crick & Dodge, 1994; Dodge, 1993). The theory posits that various social cognitive skills, deficits, and biases are learned through the same social learning processes (e.g., modeling, reinforcement) as are noncompliance and coercive behaviors. However, social information processing theory departs from traditional social learning theory in positing that it is the student's self-directed social cognitions, and not external modeling and reinforcement of behaviors per se, that accounts primarily for various forms of antisocial behavior (Dodge, Price, Bachorowski, & Newman, 1990). As such, social cognitions, the more subjective aspects of social interactions, are viewed not simply as outcomes of social learning, but as playing a critical mediating role in social interactions, including interactions involving aggression.

The most widely researched model of social information processing is the developmental model of Dodge (Crick & Dodge, 1994). At the core of the model are six social information processing steps. These steps explain types of information a student retrieves from memory and how the information is processed. Although there is an inherent logical order to the steps, it is understood that processing does not necessarily occur in a linear fashion. Instead, information related to each step is typically processed simultaneously, rather than sequentially, and information processed at one step may loop backward or forward to influence information at a previous or future step. The six steps are described briefly below.

Encoding and Interpreting Social Cues—In the first two steps, encoding cues and interpreting cues, a student *reads* specific cues in the situation. At these two initial steps a student may compare immediate situational cues to cues already stored in memory, analyze what the problem might be and why the problem exists (e.g., "I'm not getting what I what."), infer what others might be thinking or intending to do (e.g., "He's trying to stop me."), compare the present social exchange with previous ones ("What happened last time? Was I successful? Should I do it again?"), and consider the importance of the exchange to the self and the peer ("Is this important to others or me?").

Research on these first two steps has yielded several explanations of aggressive behavior. Compared to less aggressive children, habitually aggressive children tend to (a) selectively attend to particular social cues, especially those interpreted as being hostile in intent or aversive, while failing to attend to mitigating cues; (b) have memory and retrieval deficits that interfere with processing social information; and (c) impulsively draw from well established existing schemata that support aggression (e.g., "Hit when threatened or provoked.") before correctly reading cues in the given situation (Dodge & Tomlin, 1987; Slaby & Guerra, 1988). Biases in interpretation are most likely to affect behavior in social encounters characterized by ambiguous social cues (Hudley, 1994).

Research shows that the above social cognitive problems are often linked to emotions. For example, hostile attributional biases are more likely to occur when an aggressive child is emotionally aroused (Dodge & Somberg, 1987). Social information processing research also suggests that a breakdown in the encoding and interpretation of information is a better predictor of violent behavior than is nonviolent antisocial behavior (Dodge et al., 1990).

Determining Goals in a Given Situation—After interpreting the situation, children determine their personal goals, or desired outcomes, in the given situation. Goals for a specific situation are generally linked to preexisting cognitive scripts, but also may be newly developed (Crick & Dodge, 1994). Research shows that whereas nonaggressive and aggressive children tend to share the common goal of wanting to be socially accepted, social goals among aggressive children are often preempted by more hedonistic goals such as getting what one wants and retaliating against those who present obstacles to one's goals (Erdley & Asher, 1998; Slaby & Guerra, 1988).

Constructing a Response—At the next step, response access or construction, alternative behavioral or emotional responses are drawn from memory, or if the situation is a novel one, new alternatives are constructed. Regarding the relation of response access or construction to school violence, research indicates that when compared to socially adjusted children, aggressive children tend to generate fewer alternative solutions (Slaby & Guerra, 1988). Perhaps more important, their responses are qualitatively inferior. Aggressive children tend to think of fewer competent responses and more atypical, maladaptive, aggressive responses (Rubin, Briem, & Rose-Krasnor, 1991), viewing the latter as socially acceptable and not immoral (Boldizar, Perry, & Perry, 1989; Crick & Ladd, 1990). In general, aggressive children value aggression, believing that it is socially normative, leads to positive outcomes, and that circumstances justify its use (Guerra, Huesmann, & Hanish, 1995; Lockwood, 1997). For example, a recent school survey of seventh to eleventh graders found that acts of school violence were positively related to the endorsement of the following two attitude items: "If someone threatens you, it is okay to hit that person," and "It feels good when I hit someone." (Cornell & Loper, 1998).

Dishion et al. (1995) emphasized that among many aggressive children, belief systems endorsing aggression are grounded in the reality of their environments. Similarly, Garbarino (1999b) argued that young people are as bad as their predominant social environment. As shown in Patterson's (Patterson et al., 1991) model, in many homes and communities aggression, and underlying cognitions, are modeled and reinforced through ongoing coercive social exchanges. Indeed, ethnographic studies indicate that urban environments often support "codes of violence" that often are associated with social status and that serve an adaptive function (Anderson, 1990).

Deciding What to Do—Response-decision, the next step in social information processing, refers to the process by which the individual evaluates alternative responses according to their appropriateness and expected outcomes. At this step, moral judgements and judgements of self-efficacy are made. Research shows that moral reasoning among aggressive children tends to be hedonistic in perspective, focusing on immediate self-serving gains, rather than on the needs of others or on long-term consequences to the self (Bear & Rys, 1994; Quiggle, Garber, Panak, & Dodge, 1992).

Research also shows that aggressive children feel confident that their aggressive behavior will "work." They believe that aggression will lead to more favorable outcomes than would prosocial alternatives (Quiggle et al., 1992). Related research on self-efficacy indicates that aggressive children feel confident that they actually do have the necessary aggressive skills to achieve their goals, but believe they are less skilled at avoiding conflict or inhibiting aggression when provoked (Erdley & Asher, 1998; Quiggle et al., 1992).

Enactment of Aggression—Feelings of self-efficacy support aggression at the sixth and last step, enacting or committing an aggressive act. Deficits at this step are often seen in a student's failure to exhibit prosocial or adaptive behaviors even when the student has decided that such behavior should be exhibited (Dodge, McClaskey, & Feldman, 1985).

The above research pinpoints specific information-processing biases and deficits related to aggression and violence. It is important to emphasize, however, that *combinations* of biases and deficits tend to characterize aggressive students. When deficits are combined across multiple steps, future aggression is highly predictable, with multiple correlations ranging from .40 to .94 (Coie & Dodge, 1998).

Cognitive-Neoassociationistic Model

Cognitive-neoassociationistic theory (Berkowitz,1989a, 1990a, 1990b) shares many similarities with social information processing, especially its focus on social cognition. However, greater emphasis is placed on the role of negative affect in aggressive behavior and the role of environmental stimuli in triggering aggression. Aggressive behavior is seen as the product of the combination of latent variables, including emotions, that enhance the likelihood of aggressive responses to appropriate stimuli. Berkowitz argued that aggressive individuals are inclined to interpret ambiguous occurrences as threats to their pride or as barriers to the attainment of desired goals, become quickly aroused emotionally when they preceive these threats, and are less likely to regulate their emotions. Negative affect tends to activate ideas, memories, and expressive motor reactions associated with anger and aggression as well as rudimentary angry feelings. However, he also emphasized that unpleasant environmental conditions often lead to an increase in violence (Berkowitz, 1989a). For example, high temperatures during the summer are associated with increases in crime, including homicides and assaults. The urban riots of the 1960s were exacerbated by unusual summer heat. Berkowitz further notes that laboratory studies show that high room temperature, irritable cigarette smoke, and foul odors have all promoted aggressive displays, including relatively strong attacks on an available target.

Applied to the school setting, cognitive-neoassociationistic theory highlights the importance of the broader school climate and context in which students and teachers interact. Berkowitz (1990a, 1990b) argued that violence in America can be effectively decreased by reducing external determinants, such as by creating physical environments that are conducive to learning and prosocial interactions, by teaching students that aggression does not pay and is morally wrong, and by providing students alternative ways of responding.

Thus, aggression is viewed as the result of a variety of influences operating together, some arising from earlier experiences and learning and some from the immediate situation. Earlier emotion-laden experiences are stored in memory, in an emotional network. Aversive events negatively prime such memory, triggering aggression. It is in this context that aggression's linkage to frustration, and to a lesser extent to sadness and depression may be understood (Berkowitz, 1989b).

"Life-Course Persistent" and "Adolescent-Limited" Models of Aggression

About half of all violent crimes are committed by 5% or 6% of adolescents and young adults who begin their antisocial activities at an early age (Moffitt, 1993a). Moffitt argued that social learning, social information processing, and emotion-based theories do not adequately explain the continuity and early onset of aggression and antisocial behavior among this small group of "life course persistent" aggressors. She also posited that these theories fail to explain adequetly the discontinuity and sudden late onset of aggression that characterizes a much larger group of "adolescent-limited" aggressors who tend to commit their first, and often their only offense, between the ages of 14 and 17. Moffitt (1993a) argued that aggression differs among these two groups in etiology, developmental course, prognosis, and pathology or normality. She offered two new theories that attempt to account for such differences.

Life-Course Persistent Aggressors—Drawing largely from recent research in the interrelated areas of neuropsychology, temperament, and attention-deficit hyperactivity disorder, Moffitt (Caspi & Moffitt, 1995; Moffitt, 1993a, 1993b) argued that chronic aggression begins with neurological impairment. She showed that multiple sources of neurological impairment have been linked to children's antisocial behavior, including genetics, maternal drug abuse, exposure to toxic agents, brain injury, poor nutrition, lack of stimulation or affection, and child abuse. Neurological effects are not seen as deterministic, however. Moffitt (1993a, 1993b) reviewed research demonstrating the extreme malleability in neuropsychological functioning and how neurological and environmental factors interact in determining aggression. According to Moffitt, such research demonstrates that neurological impairment influences aggression primarily by interfering with the development of language-based verbal skills and executive functions of the brain (Moffitt, 1990).

Moffitt (1993a,1993b) agreed that poor parenting skills and related family stressors contribute to coercive parent-child interactions; however, she attaches primary causality to neurological-based temperament, especially hyperactivity and poor self-control. That is, a child's temperamentally-driven behavior irritates the parents (who often share their child's temperament), evoking harsh discipline, especially in homes in which parenting practices are already generally poor. Continuity in aggression is fostered by the direct impact of language and executive reasoning deficiencies on poor academics, poor social information processing, impulsive behavior, and a restricted behavioral repertoire (related to a failure to learn, and opportunities to practice, prosocial and adaptive behaviors that might compensate for deficiencies). Social rejection and poor self-concept often result from these deficits. Together, these factors place the child at additional risk for negative outcomes, including substance abuse, school dropout, and gang membership. Together, these factors set the stage for the life-course persistence of aggression, contributing to the development of a stable antisocial personality while trapping the individual into an environment in which antisocial behavior is reinforced.

In implicating neurological influences as the primary causal factors in life-course persistent aggression, Moffitt (1993a, 1993b) drew from the rapidly growing literature showing that biologically-based impulsivity and hyperactivity predispose children for interpersonal problems, including aggression. Indeed, impulsivity and hyperactivity have consistently been shown to correlate moderately or strongly with aggression (Barkley, 1997). Researchers have found that young children with conduct disorders are at much greater risk for later serious violent offenses at age 15 if an attention deficit - hyperactivity disorder (ADHD) accompanies their conduct disorder (Moffitt, 1990). Moffitt also argues that low intelligence, which shares with ADHD a biological basis, contributes to antisocial behavior among the life-course persistent aggressors. In support of this argument, Moffitt (1990) found a 17-point mean deficit in the IQs of delinquents who began their aggression in childhood, but only a 1-point deficit in the IQs of adolescent-limited aggressors.

Many researchers and theorists do not share Moffitt's (1993b) emphasis on the neurological bases of impulsivity, hyperactivity, and low intelligence, noting that such an emphasis (a) is not very useful for developing interventions, with a few exceptions such as medication for ADHD; and (b) contributes very little to the understanding of the interaction of cognitive, emotional, behavioral, and environmental processes involved in aggression (Coie & Dodge, 1998). Nevertheless, nearly all theories and models of aggression recognize the important influence of these factors in the development of aggression. Impulsivity and hyperactivity in particular are viewed widely as major precursors to the development of antisocial and violent behavior (Barkley, 1997).

Adolescent-Limited Aggressors—This group represents adolescents who engage in "normative"acts of antisocial behavior, beginning in early adolescence and typically ending in young adulthood. Acts of aggression by this group are much less frequent and tend to be less violent than those of the life-course persistent aggressors. Fighting, theft, vandalism, and drug use are common offenses among adolescent-limited aggressors. Moffitt (1993a) argued that social learning and social information processing models fail to adequately account for the sudden onset and discontinuity in these behaviors during adolescence. Her model is in agreement, however, with both of these models in implicating reinforcement and punishment contingencies, often under the control of peers and adults, as major causes of adolescent-limited aggression. Moffitt offers two reasons why these influences are so powerful during adolescence: "motivating maturity gap" and "social mimicry." That is, as a result of adult constraints on behavior, and as a by-product of a modern society in which social status is difficult to obtain without a college education, adolescents are motivated to seek less constructive, or antisocial, ways to gain "adult" status. One way is with aggression.

Aggression is thus perceived by many adolescents as a means by which they can be more autonomous or mature, acquiring the power and privileges of adults. Consistent with ethnographic studies of delinquents, Moffitt (1993a) viewed the quest for maturity and autonomy as a primary factor in aggression. These factors also explain the violent behavior of life-course persistent aggressors, but are considered secondary to the influence of neurological factors. Coinciding with a desire for autonomy and maturity is a tendency for adolescents to mimic the aggression of more chronically aggressive peers. That is, many adolescents recognize that such mimicry may lead to increased status, money, and power.

Although the above factors promote a marked increase in antisocial behavior and violence during adolescence, adolescent-limited aggressors, unlike their life-course persistent peers, engage in fewer and less severe acts. This is attributed to the absence of neurological impairment, which allows for the greater development of social, emotional, and academic competencies. In turn, these competencies enable them to refrain from antisocial behavior and to seek reinforcement in more constructive way (Moffitt, 1993a). Finally, Moffitt argued that among those adolescents who commit no antisocial behaviors, one is likely to find one or more of the following: (a) delayed puberty, (b) successful opportunities to engage in roles respected by both adults and peers, (c) environments in which antisocial acts are not modeled and reinforced, and (d) strong character traits associated with the resistance of negative peer influences.

When viewed together, the above models of aggression and antisocial behavior delineate multiple pathways through which violence often evolves. Although each model places emphasis on different factors or pathways to aggression, each also recognizes that neurological impairment, temperament, distortions or deficiencies in information processing, and poor parenting and supervision, but in most cases a combination thereof, play a critical role in the development of aggression.

STRATEGIES AND PROGRAMS FOR PREVENTING AGGRESSION AND VIOLENCE

The above models of aggression, and related research, have led to the design and implementation of various programs shown to be effective in preventing and reducing aggression. As suggested by theory, and supported by research, effective programs tend to share several characteristics (Blechman, Prinz, & Dumas, 1995; Catalano, Arthur, Hawkins, Berglund, & Olson, 1998; Guerra, Tolan, & Hammond, 1994; Kazdin, 1994; Lipsey & Wilson 1998; Loeber, Farrington, & Waschbusch, 1998; Mash, 1998; Tolan & Guerra, 1994):

- ❑ They are *comprehensive*—using multiple strategies that target multiple risk factors and multiple protective factors;
- ❑ They are *broad-based*—adopting a systems perspective toward understanding, preventing, and treating aggression;
- ❑ They are *intensive and sustained over time*—committing sufficient resources over an extended period of time;

- They are *developmental*—emphasizing age differences in forms of aggression, its determinants, and interventions that are sensitive to these differences; and
- They are *provided early*, before aggression becomes chronic and severe.

A recent survey of national experts on school violence yielded a similar, although more lengthy, list of key components of effective school-based violence prevention and intervention programs (Dusenbury, Falco, Lake, Brannigan, & Bosworth, 1997). These key components are shown in Table 4.

The above components are seen in the strategies and programs presented below for preventing and reducing aggression and violence. These strategies and programs appear elsewhere in comprehensive reviews of the prevention and intervention literatures (see Brestan & Eyberg, 1998; Catalano et al., 1998; Gottfredson, 1997; Guerra et. al., 1994; Kazdin, 1994; Larson, 1994, 1998; Lipsey, 1992; Lipsey & Wilson, 1998; McMahon & Wells, 1998; Miller, Brehm, & Whitehouse, 1998). It should be noted that distinctions between school-based strategies and programs for preventing and reducing aggression and clinic-based strategies and programs for reducing or treating aggression often are blurred. Few intervention strategies are unique to either prevention or treatment, with interventions varying mostly as a function of the degree of emphasis placed on a particular strategy, the strength of the intervention, and the extent to which multiple interventions are combined to address the behavior of concern. Thus, although the emphasis here is on school-based prevention strategies and programs, we also include clinic studies of the treatment of chronically aggressive children and youth, especially those strategies and programs that have direct implications for school-based prevention.

Involving the Student's Parents and Family

In a recent review of 82 empirically tested psychosocial interventions for children and adolescents with conduct disorders (Brestan & Eyberg, 1998), only two were found to be effective based on rigorous evaluation standards adopted by the American Psychological Association (e.g., randomized control-group designs). Both were parent training programs: a program derived directly from Patterson's social learning model and a program based on videotape modeling developed by Webster-Stratton (1996a, 1997). Among the 10 additional treatment programs judged to be

TABLE 4

Key Components of Effective School-Based Programs Based on a Survey of National Experts

- ☐ A comprehensive, multifaceted approach that includes family, peer, media, and community components.
- ☐ Programs that begin in the primary grades and are reinforced across grade levels.
- ☐ Developmentally tailored interventions.
- ☐ Program content that promotes personal and social competencies.
- ☐ Interactive techniques such as group work, cooperative learning, discussions, and role plays or behavioral rehearsal that facilitate the development of personal and social skills.
- ☐ Ethnic identity/culturally sensitive material is matched with the characteristics of the target population.
- ☐ Staff development/teacher training to ensure that the program will be implemented as intended.
- ☐ Activities designed to promote a positive school climate or culture (i.e., classroom management strategies and discipline).
- ☐ Activities designed to foster norms against violence, aggression, and bullying.

Note. From "Nine critical elements of promising violence prevention programs" by L. Dusenbury, M. Falco, R. Brannigan, and K. Bosworth, 1997, *Journal of School Health*, 67 (pp. 409-414). Copyright 1997 by the American School Health Association. Adapted with permission.

promising or "probably efficacious," three were parent training or family therapy programs. Likewise, upon reviewing various interventions for treating antisocial children and youth, Kazdin (1994) concluded that four interventions show the greatest promise. Two of them, parent-management training and family therapy, emphasize the importance of the child's parents and family in the treatment of children with antisocial behavior (the two other treatments that Kazdin found most promising are problem solving training and school- and community-based treatments). Thus, despite the perceived obstacles to the delivery of parent training or family therapy, it is clear that schools cannot afford to neglect family-focused interventions when attempting to prevent aggression and violence, especially in secondary and tertiary-level preventive interventions.

Research shows that children of parents who participate in parent management training are likely to improve on a variety of outcomes, including dropping out of school, school attendance, disruptive behavior at school and home, and indices of criminal activity (Kazdin, Siegel, & Bass, 1992; Webster-Stratton, 1996b, 1997). The effects of parent training in preventing and reducing conduct problems are most impressive when intervention begins early, during early childhood or the early school years (Kazdin, 1995; Taylor & Biglan, 1998). Early intervention also has more lasting effects when parent training incorporates an academic/cognitive component (Yoshikawa, 1994). Likewise, programs are more effective, especially with respect to generalization of improved behavior across settings, when parent training programs are combined with child social skills programs, teacher training, and efforts to promote positive relationships with teachers (Webster-Stratton, 1998a). In a later section, we present several model parent education programs by Webster-Stratton, some of which have focused on prevention.

Multisystemic Therapy and Family Therapy—For adolescents with a chronic history of conduct problems, it is evident that an intensive parent component, as a part of a more comprehensive therapeutic program, is necessary for reducing violence. In addition to parent education programs reviewed in a later section (under Model Programs), research supports the effectiveness of multisystemic therapy (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998) and functional family therapy (Morris, Alexander, & Waldron, 1990). These models are based on a systems perspective in which family dysfunction, conflict, and maladaptive processes are addressed and parents are empowered with skills and resources for solving family problems. For example, multisystemic therapy addresses multiple factors that contribute to a child's antisocial behavior, including family, school, peer, individual, and neighborhood/community factors. Multisystemic therapy has been shown to be effective in reducing a variety of antisocial and delinquent behaviors, including truancy, theft, running away, violence, and noncompliance (Henggeler et al., 1998).

System-of-Care Approach—Multisystemic therapy's comprehensive and family-oriented approach to services is consistent with the popular system-of-care model of delivering mental health services to children with complex and multiple needs. Programs based on this model use wraparound service planning that entails an individualized service plan for a child and the child's family—an approach familiar to school psychologists (see Eber & Nelson [1997] for an example of how schools can assume the lead role in a system-of-care; see Skiba, Polsgrove, and Nasstrom [1996] for a review of characteristics of system-of-care programs for students with conduct disorders.)

The system-of-care approach is comprehensive in that it integrates multiple life domains. Some of the basic tenets of the approach are (a) building on strengths of children, families, and systems; (b) identifying and developing support structures for necessary role changes among school personnel; (c) changing attitudes about partnerships with families, ensuring that services are family centered; (d) creating and nurturing interagency networks, merging and blending community services and funding; (e) gaining acceptance for changes in school-based programs and services to meet the needs of students, rather than finding a "fit" within existing services and funding; and (f) adopting a case management approach that focuses on individual needs.

Given that system-of-care programs vary widely, program evaluation is difficult. Nevertheless, evaluation of these programs have indicated significant effects on children and families, including (a) children's successful transition from residential settings to their homes; (b) a reduction in the number of out-of-state placements, allowing children with emotional and behavioral problems to remain in their own neighborhood schools; and (c) reports of significant improvements in children's adaptability (Rosenblatt & Furlong, 1998).

Whereas the system-of-care approach has focused on treatment rather than prevention, it is clear that many of its tenets apply to efforts to prevent antisocial behavior, particularly among children in high risk communities. Indeed, the Centers for Children's Mental Health Services have funded programs in more than 40 communities that are designed to create coordinated, community-based, cross-agency mental health and social service systems for preventing and treating children and youth with behavioral disorders within their family, school, and community contexts (Burchard, Atkins, & Burchard, 1996; Yoe, Santarcagelo, Atkins, & Burchard, 1996). Nearly all of these programs emphasize a parent education component, some of which begin in the hospital immediately following a child's birth.

Home-School Collaboration and Consultation—Although parent management training and family therapy are critical components of programs for students with a chronic history of antisocial behavior or who are at great risk for such, less intensive interventions involving parents may be sufficient in helping to prevent aggression among most students (Webster-Stratton & Hammond, 1997). Christenson, Rounds, and Franklin (1992) present a thorough review of home-school collaboration strategies and programs that have been found to be effective in preventing and reducing children's academic and social problems (also see Chapter 10, this volume). Likewise, Sheridan, Kratochwill, and Bergan (1996) present evidence of the effectiveness of involving parents in problem solving consultation when problems are first brought to the attention of school psychologists and counselors.

Teaching Social Information Processing Skills

A number of studies have demonstrated the effectiveness of intervention strategies and programs specifically designed to prevent or reduce antisocial behavior by targeting social cognitive and social information processing skills shown to be linked to social behavior (see Chapter 2 in this volume; for additional reviews, see Consortium on the School-Based Promotion of Social Competence, 1991, 1994; Gottfredson, 1997; Guerra et. al., 1994; Hughes & Cavell, 1995; Kadzin, 1994; Larson, 1994, 1998). Nearly all popular school-based programs for preventing school violence include a social problem solving curriculum, typically based on the classic social problem solving research by Shure and Spivak (1982), information processing models (e.g., Crick & Dodge, 1994), or models of emotional competency (e.g., Elias et al., 1997). Likewise, training in social problem solving is frequently a part of mental health treatment programs for aggressive and antisocial children (Kazdin, 1994). Cognitions and emotions commonly targeted in these programs include:

- Social information processing, social problem solving, and social decision making skills (Crick & Dodge, 1994; Elias, et al., 1997; Erdley & Asher, 1998; Hudley, 1999; Hudley et al., 1998; Webster-Stratton, 1997);
- Anger management and impulse control (Lochman, Dunn, & Wagner, 1997; Lochman & Wells, 1996);
- Moral reasoning (Bear, Richards, & Gibbs, 1997; Elias et al., 1997);
- Self-management, including self-monitoring, self-evaluation, and self-reinforcement (Shapiro & Cole, 1994);
- Empathy training (Eisenberg & Fabes, 1997); and
- Social perspective taking, interpersonal understanding and negotiation strategies (Selman & Schultz, 1990).

Most research-supported programs for teaching social problem solving and decision making tends to use multiple strategies that target a combination of the above areas. Table 5 shows a list of some of the most popular social cognitive, prevention-oriented curriculum programs, designed for primary-level intervention, that have been shown to be effective in improving social cognitive skills and/or behavior. Although each of these programs is supported by published research showing positive social and/or behavioral outcomes, only four (*BrainPower, Dinosaur Social Skills and Problem-Solving Curriculum, PATHS, and Second Step*) have published results showing that an empirical research design with a follow-up component was used to show lasting improvement in behavior. As noted in comprehensive reviews of social problem solving programs (e.g., Beelmann, Pfingsten, & Losel, 1994; Larson, 1998) most programs have simply demonstrated short-term improvements on self-report measures of either social problem solving or behavior. Failure to show that improvements in behaviors are maintained and generalized outside of the training setting also has plagued social skills training programs that emphasize direct teaching, modeling, and practice of specific behaviors (DuPaul & Eckert, 1994; Mathur, Kavale, Quinn, Forness, & Rutherford, 1998).

TABLE 5

Sample of Primary Level Preventive Intervention Programs of Demonstrated Effectiveness

Prevention Program	Source
Aggressors, Victims, and Bystanders: Thinking and Acting to Prevent Violence	Slaby, Wilson-Brewer, & Dash (1994)
Brainpower Program (Reattribution Training)	Hudley et al. (1998); Hudley (1999)
Dina Dinosaur's Social Skills and Problem-Solving Curriculum	Webster-Stratton (1990c)
I Can Problem Solve (ICPS)	Shure (1992)
PATHS Program (Promoting Alternative Thinking Strategies)	Greenberg, Kusche, Cook, & Quama (1995)
Resolving Conflict Creatively Program	Aber, Jones, Brown, Chaudry, & Samples (1998)
Seattle Social Development Project	Hawkins et al. (1998)
Second Step: A Violence Prevention Curriculum	Committee for Children (1992); Grossman et al. (1997)
Social Decision Making and Problem Solving	Elias & Clabby (1992); Elias & Tobias, (1996)
Social Problem Solving (SPS) Program (including New Haven's K-12 Social Development Project)	Weissberg, Barton, Shriver (1997)
Viewpoints: A Guide to Conflict Resolution and Decision Making for Adolescents	Guerra, Moore, & Slaby (1995)
Violence Prevention Curriculum for Adolescents	Prothrow-Stith (1987)

Whereas programs that teach children how to use social problem solving skills show much promise as an intervention, these programs should not be confused with "lecture" programs that rely primarily on moral appeal, fear arousal, or information dissemination in teaching students *what* to think (as opposed to *how* to think or how to decide *why* certain actions are wrong). Lecture programs have not been found to be effective in preventing or reducing antisocial behaviors (Gottfredson, 1997). Included in this category are deterrence programs such as Scared Straight and law-related education programs, such as the popular DARE program (however, note that the curriculum for this program has been recently revised to include social problem solving strategies found to be effective in other programs).

Establishing School- and District-Wide Norms of Appropriate Behavior

Programs included in this category differ from the above programs in their emphasis on changing behavior directly, rather than indirectly through social cognition. A variety of traditional school-effectiveness practices are typically used, including the implementation of systematic rewards and sanctions, clear school rules, expectations and policies, increased supervision and monitoring of behavior, improved school-wide climate, school-wide campaign or ceremonies (e.g., rewarding prosocial behavior and communicating to parents, students, and teachers the problems with bullying), and close communication with families and communities (Cotton & Wikelund, 1990).

Project ACHIEVE (Knoff & Batsche, 1995) is a good example of a behaviorally oriented, comprehensive, multisite program that attempts to improve school norms. Program components include teacher training in classroom management techniques; collaborative problem-solving consultation; social skills training; remedial, curriculum-based instruction; and home-school collaboration. The program has been shown to be effective in reducing reports by teachers and administrators of disobedience, fighting, disruptiveness, abusive behavior, and disrespect and in improving academic achievement. However, studies have examined only short-term effects and have not included rigorous experimental research designs. Thus, it is unclear if the program prevents future delinquent acts.

BASIS (Gottfredson, Gottfredson, & Hybl, 1993) is another good example of a school-wide program designed to change school norms, with an emphasis on the use of behavioral techniques. The program targets schools with a large number of high-risk students and focuses largely on staff training. Like ACHIEVE, BASIS focuses on clarifying school rules and improving the consistency of their enforcement, improving classroom management and discipline, enhancing home/school communication, and systematically reinforcing students for good behavior. Minor delinquent acts have been shown to decrease in schools in which the program has been implemented with high fidelity.

Whereas ACHIEVE and BASIS rely largely on traditional methods of improving schools, particularly staff development and the direct teaching of desirable behavior, other programs have used more innovative strategies to improve school climate and behavior. For example, in a school-wide project funded by the National Institute of Justice, eleventh graders were empowered to improve student behavior in their high school as part of their course requirements in government and history. Fighting, teacher victimization, and student fear about violence decreased as outcomes of this innovative intervention (Kenney & Watson, 1996). In an exemplary project for reducing bullying, Olweus (1999) blended traditional and innovative practices. The project included (a) various forms of media to inform teachers, parents, and children about the problem and how to counteract it; (b) clear rules against bullying; (c) sanctions against bullying and rewards for appropriate behavior; (d) class meetings to discuss bullying and to clarify norms against it; (e) improved supervision of children, especially on the playground; and (f) increased teacher involvement in creating and maintaining a positive school climate. Conducted in Norway, the program was successful in altering school norms. The program led to impressive reductions in bullying (about 50% reduction) as well as to smaller decreases in vandalism, truancy, and theft. It should be noted that whereas the above programs have been shown to be effective in reducing behavior problems in the school setting, their effects on long-term measures of aggression and antisocial behavior, and on behavior outside of the school setting, have not been determined.

Combining Proactive, Corrective, and Instructive Strategies at the Classroom and Small Group Levels

Programs in this category focus more on small group and classroom behavior than on school-wide norms and climate. They tend to be less comprehensive in scope and often are a major component of more comprehensive, school-wide programs (e.g., ACHIEVE, BASIS). This category includes a variety of developmentally appropriate strategies commonly found in the behavior modification and educational psychology literatures such as those shown in Table 6.

Research has consistently demonstrated the short-term effectiveness of a wide variety of behavioral techniques, such as positive reinforcement, behavioral contracting, time-out, overcorrection, response cost, and level-systems for teaching and managing behavior. A recent meta-analytic review of this literature (Stage & Quiroz, 1997) found that on the average 78% of disruptive students decreased their disruptive classroom behavior following the use of behavioral interventions. Although most of the studies included in the review consisted of single subjects or small groups, other studies have clearly demonstrated the effectiveness of behavioral interventions when implemented at the classroom level or across multiple grade levels. For example, Kellam, Rebok, Ialongo, and Mayer (1994) demonstrated the effectiveness of the Good Behavior Game (an interdependent group contingency intervention) in reducing aggressive behavior in a sample of 1,000 urban elementary students. Likewise, several empirical studies demonstrated lasting effects of social skills training in preventing a variety of behavior problems, including aggression, but especially when the training included social-cognitive and parent education components (Tremblay et al., 1996; Vitaro, Brendgen, & Tremblay, 1999).

Research in educational psychology has consistently demonstrated the critical importance of a host of teacher and classroom characteristics in the prevention and management of behavior problems, such as high academic and behavioral expectations, instructions and materials that are motivating, curriculum adaptations, and the frequent monitoring of behavior achievement (Ysseldyke & Christenson, 1994). In particular, an "authoritative" teaching style has been shown to be effective. Authoritative teachers *prevent* most behavior problems from ever occurring. When problems do occur they handle them with a combination and variety of effective behavioral techniques, while viewing disciplinary situations as opportunities to teach children self-discipline (Bear, 1998; Brophy, 1996).

Webster-Stratton (Webster-Stratton & Hammond, 1997) provided an excellent example of a research-driven, in-service training program for teachers and school counselors that targets the

TABLE 6

Classroom Behavior Management Strategies Used by Effective Classroom Teachers

☐ Work to develop a classroom environment that is caring, pleasant, relaxed, and friendly, yet orderly and productive.

☐ Show a sincere interest in the life of each student (e.g., know their interests, goals, family, pets, friends, etc).

☐ Model the behaviors they desire in their students and convey that such behaviors are truly important.

☐ Encourage active student participation in decision making.

☐ Strive to teach prosocial behavior and to reduce undesirable behavior.

☐ Strive to develop cognitions and emotions related to prosocial behavior.

☐ Work to develop peer acceptance, peer support, and close friendship among students.

☐ Appreciate and respect diversity.

☐ Appreciate and respect each student's opinions and concerns.

☐ Emphasize fairness, allowing for appropriate flexibility in application of consequences for rule violations.

☐ Use cooperative learning activities.

☐ Minimize competition and social comparisons.

☐ Avoid producing feelings of shame (focusing more on pride and less on guilt).

☐ Reinforce acts of kindness in the classroom, school, and community.

☐ Communicate often with each child's home.

☐ Provide frequent and positive feedback, encouragement, and praise, characterized by:

  - Sincerity and credibility.
  - Providing specific suggestions and opportunities for good behavior.
  - Highlighting the importance and value of the student's social and academic achievement.
  - Attributing success to effort and ability (implies that similar successes can be expected in the future).
  - Encouraging belief that students behave well because they are capable and want to, not because of consequences.
  - A focus on both the process and the product of good behavior.
  - Reference to prior behavior when commenting on improvement.
  - Specification of what is being praised.
  - Praise that is contingent upon good behavior.

Table 6 continued on p. 32

TABLE 6

Classroom Behavior Management Strategies Used by Effective Classroom Teachers (*continued*)

❑ Beginning during the first few days of school, establish clear rules that are characterized by:

- Clear and reasonable expectations.
- "Do"s and "Don't"s regarding classroom behavior.
- Attempts to develop student understanding of rules and their consequences.
- A small number of important rules being highlighted.
- Fairness and developmental appropriateness.
- Explanations and discussions of the rationale for each rule.
- Student input during their development.
- Clear examples of appropriate, and inappropriate, behavior related to each rule.
- Direct teaching of appropriate behavior when necessary.
- Clear consequences for rule infractions.
- Distributing a copy of rules and consequences to children and parents.
- Applying classroom rules consistently.
- Frequent reminders of rules and expected behaviors.
- Their nondisturbance of the learning process. That is, the rules do not discourage healthy peer interactions such as cooperative learning or appropriate peer discussions.

Note. From "School discipline in the United States: prevention, correction, and long-term social development," by G. G. Bear, 1998, *School Psychology Review*, *22* (p. 20). Copyright 1998 by the National Association of School Psychologists. Adapted with permission.

above classroom management strategies. The videotape-based, discussion-oriented program includes six components: (a) the importance of teacher attention, encouragement, and praise; (b) motivating children through incentives; (c) the proactive teacher (focused on instructional techniques); (d) decreasing inappropriate behavior; (e) building positive relationships with difficult students; and (f) social skills and problem solving training in the classroom. A key feature of the program is the use of more than 200 videotaped models of teachers interacting with children in classrooms from preschool through third grade. In an empirical study of 145 children with diagnosed conduct problems, the teacher training program was shown to significantly enhance the effectiveness of parent training and child training interventions in terms of decreasing aggressive and noncompliant behavior and improving academic readiness and engagement. Moreover, participating teachers were shown to use fewer inappropriate and harsh discipline strategies and to be more nurturing and positive than non-intervention teachers. The favorable results of the training program were recently replicated with Head Start teachers (Webster-Stratton & Reid, 1999).

Mentoring

Mentoring programs involve an ongoing one-on-one relationship between an adult and a high-risk child or adolescent. Typically, mentoring focuses on improving academics, or social competency, or on providing vocational guidance. Mentoring programs have been shown to be effective in improving school attendance and reducing substance abuse (Gottfredson, 1997; Sherman, 1997). With a few exceptions, they have not been shown to be effective in preventing or reducing antisocial and violent behavior. However, it should be noted that few mentoring programs have been adequately evaluated (Gottfredson, 1997; Sherman, 1997). A recent evaluation of the community-based Big Brothers/Big Sisters program yielded promising results. Mentored youth were 46% (70% for minority participants) less likely than controls to begin using drugs and 27% less likely to begin drinking alcohol. They also hit others 32% less often, skipped half as many days of school, felt more competent about their schoolwork, and improved slightly in their grade point averages (Grossman & Garry, 1997). Long-term effects were not evaluated.

Focusing on the Prevention of Gang Violence

Gang prevention programs are designed specifically to prevent adolescents from joining gangs or to divert gang members from violence. Perhaps the most widely used gang violence prevention program is Gang Resistance Education And Training (GREAT), funded by the U.S. Bureau of Alcohol, Tobacco, and Firearms. This 9-week program, taught by trained, uniformed police officers, consists primarily of lessons on cultural differences, the impact of crime, social problem solving, conflict resolution, and self-understanding. Evaluations show that participants, compared to controls, fare better with respect to prosocial behaviors and attitudes, attachment to parents and school, involvement with nondelinquent friends, less fighting and delinquent activity, impulsive or risk-taking behavior, and gang-supporting attitudes (Arnette & Walsleben, 1998). The major limitation of these evaluations, however, is that they were based entirely on self-report measures. In general, reviews of evaluation studies of gang violence prevention programs tend to be mixed. For example, whereas Gottfredson (1997) evaluated the GREAT program negatively, noting that it lacks the teaching of those social decision making skills found to be effective in other programs, the Office of Juvenile Justice and Delinquency Prevention Study Group on Serious and Violent Juvenile Offenders judged GREAT as "promising" (Loeber & Farrington, 1997).

Providing Alternative Education Programs

Largely in response to the public's perception of a rising tide of school violence, many schools have adopted "zero tolerance" policies consisting mainly of suspension and expulsion. Others have developed alternative schools, recognizing the limitations of suspension and expulsion. The effects of suspension and expulsion are similar to those that apply to punishment procedures in general. That is, punishment (a) fails to address factors underlying the student's problem behavior; (b) does not teach replacement behaviors such as prosocial alternatives; (c) produces short-term, but not lasting, decreases in behavior problems; (d) is likely to harm the student-teacher relationship; and (e) is likely to foster resentment, retaliation, and/or emotions that are counterproductive to learning (Hyman, 1997; Martens & Meller, 1990). Suspension and expulsion often allow students to avoid or escape from situations they find aversive (e.g., difficult or irrelevant academic work, peer rejection, a noncaring or harsh teacher), negatively reinforcing inappropriate behavior. Moreover, these two common disciplinary practices in the schools typically result in students losing valuable instructional time (thus contributing to their school failure and the risk of dropping out of school) and gaining greater exposure to negative role models (Walker et. al., 1996).

Alternative education programs for students with disciplinary problems are designed to avoid the above shortcomings of suspension and expulsion, while simultaneously helping to ensure overall classroom safety and order. With respect to serving violent and antisocial children, there are two types of alternative education programs: (a) traditional alternative education programs that serve "at-risk" students for an extended period of time, and (b) Interim Alternative Education Settings (IAESs) in which placement is short-term, generally 1 to 45 days. IAESs were first introduced to educators in the 1997 Amendments to the Individuals with Disabilities Act for the purpose of providing a temporary setting primarily for students with disabilities who have exhibited a major infraction of school rules (e.g., possession of drugs or weapons or threat of violent behavior) and who may need a change in their current educational placement.

Only a few empirical studies have been published on the effectiveness of traditional alternative education programs, yielding mixed findings with respect to a lasting impact on delinquent behaviors (Cox, Davidson, & Bynum, 1995; Gottfredson, 1997). No empirical studies have yet been published on IAESs. It should be emphasized, however, that alternative programs should be effective in preventing behavior programs from recurring when they include the effective program components reviewed above. In the absence of a parent component, the linking of assessment to interventions, the provision of adequate support services, changes in the regular classroom setting to which the student returns, and so forth, it is unlikely that placement in an alternative education program will result in lasting improvement in behavior (see Bear, 1999, and Bear, Quinn, & Burkholder, in press, for recent reviews of characteristics of alternative education programs that are likely to be associated with a program's effectiveness).

Providing School-Based Counseling

School-based counseling programs, either individual or group, that focus on active listening, vocational guidance, or changing general attitudes, values, and beliefs toward aggression have tended to receive unfavorable reviews with respect to their impact on preventing aggressive and delinquent behavior (e.g., Gottfredson, 1997; Lipsey, 1992). However, research reviews have been more favorable in reference to counseling services provided in clinical treatment (Lipsey & Wilson, 1998). Differences in evaluations should be expected given the wide variety of counseling techniques employed and the failure on the part of reviewers to differentiate among techniques. Counseling programs should be effective when they rely on those strategies presented previously that have been shown to prevent or reduce aggression (e.g., parent involvement, teaching anger control and social decision making skills), but are likely to fail when they focus on strategies of undemonstrated value (e.g., building self-esteem, active listening without fostering problem solving skills, counseling that does not address the multiple factors influencing the student's behavior).

Peer-Led Interventions

Peer-Mediation Programs—Unlike curriculum-based programs that are designed to teach all students a variety of social problem solving and conflict resolution skills (as reviewed previously), programs in this category teach these skills to a selected cadre of students. These students apply the skills to resolving or mediating disputes among peers. Unfortunately, despite the marked increase in the number of peer mediation programs during the past decade, empirical studies of their effectiveness are sparse. Reports of their effectiveness are based largely on anecdotal and descriptive data.

In a comprehensive review of the few empirical studies that have been reported, Johnson and Johnson (1996) concluded that considerable evidence exists showing that peer mediation training "results in students knowing the negotiation and mediation procedures, being able to use the procedures in actual conflicts, transferring the procedures to nonclassroom conflicts, and transferring the procedures to nonschool conflicts in the home." (p. 479).

It should be noted that most of the studies included in Johnson and Johnson's (1996) review that yielded favorable results were conducted on their Teaching Students To Be Peacemakers Program (Johnson & Johnson, 1995). Johnson and Johnson found mixed evidence that peer-mediated conflict resolution programs improved self-esteem, overall perceptions of the school climate, or student attitudes toward conflict and training. Evidence, largely correlational and based on self-reports and testimonials from project staff, supported the effectiveness of conflict resolution and peer mediation programs in reducing violence and discipline problems, as measured primarily by school-reported decreases in referrals, detentions, and suspensions. As noted by Johnson and Johnson, and by others (e.g., Brewer, Hawkins, Catalano, & Neckerman, 1995; Gottfredson, 1997), there is very little empirical evidence demonstrating the effectiveness of peer mediation on aggression and violence: Existing studies tend to suffer from multiple methodological weaknesses (e.g., poor measures, short-term design, no random assignment, etc.).

In a recent longitudinal evaluation of the Resolving Conflict Creatively Program, which included over 5,000 students in grades 2 to 6 in New York City, Aber, Jones, Brown, Chaudry, and Samples (1998) found little evidence to support the program's peer mediation component. Teachers who focused more on the teaching of class-wide lessons (focusing on active listening, assertiveness, negotiation, and social problem solving) and less on the use of peer mediators, had a greater favorable impact on students' aggressive cognitions (hostile attributional biases and aggressive fantasies) than did those teachers who taught no lessons but had a high percentage of specially trained peer mediators in their classrooms. Interestingly, Aber et al. (1998) found that one of the strongest determinants of the program's effectiveness in reducing aggressive cognition was whether or not the classroom supported the norm of aggression as being "really wrong" or "OK." Only in the former classes were lessons effective. The researchers did find that the number of peer mediators present in a classroom correlated significantly with classroom normative beliefs against aggression.

Unfortunately, most studies, including the Aber et al. (1998) study, fail to report on the quality of the peer mediation training or the skills of those trained. As cautioned by Johnson and Johnson (1996): "While merely introducing a third person into a conflict may be highly beneficial, it can also be highly problematic. Emerson (1990), for example, in his study of peer mediation programs in elementary schools in Oregon, found that most of the teachers/trainers did not (a) understand mediation, (b) understand how to train peer mediators, and (c) have adequate group process skills. Consequently, many student mediators were improperly trained, frequently viewed as policemen, and frequently disliked by other students" (p. 485).

Other Peer-Led Interventions—These programs entail a variety of peer-based intervention programs in which aggressive children play the primary role in helping their peers. Included are peer counseling, peer-led discussions of the negative effects of crime, group contingency reward programs, and programs in which disruptive students are paired with a nondisruptive "buddy." These programs have been found to be ineffective, with several researchers noting that they may be counterproductive, exerting a negative influence on the least disruptive students in the group (Gottfredson, 1997; Guerra et. al., 1994).

Recreational, Enrichment, or Leisure After-School Programs

These programs are designed to occupy the after-school hours of students, particularly those who are unsupervised and thus at greatest risk for being either a perpetrator or victim of aggression and violence. In addition to providing adult supervision, such programs generally offer sports, recreational, social, and academic activities. Unfortunately, few empirical studies have investigated their effectiveness, especially in preventing aggression from occurring outside the supervised setting. Anecdotal reports and nonempirical studies show the programs to be effective in improving academic achievement, school attendance, and general behavior problems (U.S. Department of Education, 1998). Their effectiveness can be attributed not only to adult supervision, but also to decreased time watching television, more time spent on homework, increased academic assistance, and greater access to support services such as counseling and vocational training.

When not combined with programs that directly teach social competency skills, these programs appear to have no *lasting* effect on aggression (Gottfredson, 1997). Aggression may decrease, but such a decrease is typically limited to the time during which structured activities and supervision are offered. Nevertheless, this alone is a valuable outcome in many communities, given that juvenile crime typically occurs after school. However, for purposes of this review, for a program to be deemed effective, it should produce improvements that are more lasting.

MODEL PROGRAMS FOR PREVENTING SCHOOL VIOLENCE

In this section we profile two types of model programs for preventing school violence: comprehensive school-based programs and parent-family training programs. First, we briefly review two comprehensive, school-based programs: Fast Track and the Child Development Project. Both of these programs employ multiple strategies to develop children's social, emotional, and behavioral competencies. Both include classroom management and parent education components. Both have strong, although different, theoretical and empirical bases and are being implemented at multiple sites across the nation. Because many of the strategies used by these two programs, especially strategies for teaching children social problem solving and decision making skills, are covered more extensively in Chapter 2 in this volume, we devote less attention to these two programs and greater attention to parent-family training programs.

Comprehensive School-Based Programs

The Fast Track Program—Families and Schools Together (FAST Track; Bierman, Greenberg, & Conduct Problems Prevention Research Group [CPPR Group], 1996; McMahon, Slough, & CPPR Group, 1996) is the largest school-based prevention program funded by the federal government (NIMH). This comprehensive, multisite, school-based prevention program integrates several of the most effective interventions for preventing conduct problems: parent training, social problem solving and social skills training, friendship enhancement, remedial instruction, and consultation to teachers. The social information and social learning models reviewed previously provide the framework for the program's two primary components: social problem solving/emotional competence and parent management training.

The PATHS (Kusche & Greenberg, 1994) curriculum is used to teach social problem solving and to promote emotional competence (see Chapter 2 in this volume). All children are taught two to three lessons weekly, extending from first through fifth grade, that focus on social problem solving, resolving social conflicts, controlling anger, and generally on how to behave in a socially appropriate manner.

Children who exhibit conduct problems (e.g., those scoring in the upper 10% on teacher checklists) receive additional components. Included is an intensive, direct parent management training component that combines an individual and group-based approach, using curricula developed and validated by Forehand

and McMahon (1981) and Webster-Stratton (1996a, 1997). These curricula are supplemented with additional parenting lessons designed to teach social cognitive strategies for use by both parents and children (e.g., anger control). Home visits also are included. The high risk students also participate in a Saturday program that targets social problem solving, social skills training, and cooperative group activities. Parents also participate in the Saturday program.

Additional components of the Fast Track program are teacher training, remedial reading instruction, a peer-pairing component, and the provision of a school consultant (counselor, school or clinical psychologist) to assist the classroom teacher in managing children with discipline problems. Together, these components strive to improve children's social competencies in six areas: (a) social participation, (b) prosocial behavior, (c) communication skills, (d) self-control, (e) regulating oneself in rule-based interactions, and (f) social problem solving skills.

A recent large-scale study, using a randomized design, evaluated the effectiveness of two specific components of FAST Track, the PATHS curriculum and teacher consultation (CPPR Group, 1999a). A total of 198 first-grade classrooms participated in the intervention. Significant effects were found in peer ratings of classroom behavior and observer ratings of classroom atmosphere. That is, compared to 180 comparison classrooms, at the end of first grade project participants (particularly boys) were rated by peers as less aggressive and less hyperactive-disruptive. Moreover, unbiased observers rated intervention classrooms as having a more positive classroom atmosphere (e.g., students followed rules, expressed feelings appropriately, showed greater interest and enthusiasm, and stayed more focused and on task). No differences were found in teacher ratings of behavior. Effects were greatest in those classrooms in which the project's components were implemented with fidelity and in high dosage.

In a separate study (CPPR Group, 1999b), researchers focused on the impact of the overall multicomponent program (including social skills training, academic tutoring, parent training, and home visits) on 446 behaviorally disruptive, high risk children. Compared to children in the control group, at the end of Grade 1 children in FAST Track showed significantly greater improvements in a variety of social cognitions (i.e., emotion recognition, emotion coping, social problem solving, aggressive retaliation), spent more time in positive peer interaction, were more socially accepted, and were rated by parents, teachers, and unbiased observers as less aggressive-disruptive. Project participants also were shown to spend less time per week in special education. In addition, parents of children in the project reported less use of physical punishment and were rated as showing more warmth and positive involvement and more appropriate and consistent discipline than did parents in the control group. Finally, parents rated themselves as improving in parenting skills and in parenting satisfaction and reported high levels of satisfaction with the overall program. Teachers also rated parents as improving in their involvement in school.

Together, the above two evaluations provide some of the strongest evidence to date in support of school-based interventions—many of which are commonly used by school psychologists—for promoting social and emotional competence and preventing social maladjustment.

Child Development Project—The Child Development Project (Battistich, Watson, Solomon, Schaps, & Solomon, 1991) is a multisite project, supported by the William Grant Foundation, grounded in a cognitive-developmental, constructivist approach to social and moral development. The teaching of prosocial behavior and self-discipline, primarily by use of strategies designed to promote socio-moral reasoning, social problem solving, and empathy, is emphasized. The Child Development Project's major program components include (a) ongoing staff development; (b) cooperative learning activities; (c) a literature-rich language arts curriculum that highlights important social, cultural, and moral values; (d) activities designed to build a caring classroom and school community; (e) home-school collaboration activities; and (f) developmental discipline, which focuses on promoting social problem solving and the internalization of democratic values.

The Child Development Project has generated a number of published research studies, including multiple studies of the program's effectiveness. Results show that compared to control groups, children in the program are more prosocial, possess better social problem-solving skills, and show a greater commitment to democratic values—compromise, asserting one's opinion, and respect of other's opinion and right to participate in decision making (Battistich, Solomon, Watson, Solomon, & Schaps, 1989). The program has had less impact on indices of antisocial behavior. However, a recent follow-up study (Battistich, Schaps, Watson, & Solomon, 1996) demonstrated that project participants, particularly in schools in which the program was implemented with fidelity, are less likely to use alcohol and more likely to exhibit fewer delinquent behaviors (e.g., threatening others, carrying a weapon, skipping school, or stealing vehicles).

Parent-Family Training Programs

The following parent-family training programs were selected on the basis of their widespread availability, detailed descriptions of training procedures, and empirical validation including data concerning their long-term effectiveness in preventing or reducing conduct problems.

"Living with Children" Program and "Families" Program— The most highly influential parent-training program was developed by Patterson, Reid, and their colleagues at the Oregon Social Learning Center (Patterson, Chamberlain, & Reid, 1982; Patterson, Reid, Jones, & Conger, 1975). Spanning two decades of research with more than 200 families, their work provides an exemplary model for outcome research with conduct-problem children. Although directed toward parents of preadolescents and adolescents who were engaged in overt conduct disorders, their program is described here first because it has provided the foundation for numerous other parent training programs, both prevention- and treatment-oriented.

The program, which is based on a one-to-one counseling model, starts with having parents read a programmed text, either *Living with Children* (Patterson, 1976) or *Families* (Patterson, 1975). Afterwards, they complete a test on the reading material. The counselor then works with each parent individually in a step-by-step approach wherein each newly learned skill forms the foundation for the next new skill. Five behavior management practices form the core content of the program. *First*, parents are taught to pinpoint the problem behaviors of concern and to track them at home (e.g., compliance versus noncompliance). *Second*, they are taught how to use social and tangible reinforcement techniques (e.g., praise, point systems, privileges, and treats) and to shift from tangible to social reinforcements over time. *Third*, they are taught discipline procedures: 5-minute time-outs, short-term privilege removal, response cost, and work chores. *Fourth*, they are taught to "monitor"—provide close supervision for their children even when the children are away from home. This involves parents knowing where their children are at all times, what they are doing, and when they will be home. In the *final phase* of treatment, parents are taught problem solving and negotiation strategies and become increasingly responsible for designing their own programs. The treatment content has been described in a manual by Patterson (1975) and elaborated upon by Reid (1987). The program has undergone extensive evaluation (Patterson et al., 1982; Patterson & Fleischman, 1979).

A group-based version of this program, the *Adolescent Transition Program, Parent Focus* (Dishion & Kavanagh, in press), was developed for parents of older children with at-risk behaviors (ages 11 to 15 years). This 12-session, group-based parenting program (Irvine, Biglan, Metzler, Ary, & Smolkowski, 1997) has been shown to improve both parents' practices and youths' behaviors (Dishion & Andrews, 1995). The program uses videotape examples and discussion to assist parents in pinpointing and reinforcing desired behaviors and setting limits effectively.

Helping the Noncompliant Child—Another influential parent training program, designed to treat noncompliance in young children, ages 3 to 8 years, was developed originally by Hanf (1970) at the University of Oregon Medical School and later modified and evaluated extensively by McMahon and Forehand (1984). As described by Forehand and McMahon (1981) in their book, *Helping the Noncompliant Child*, the first phase of this comprehensive parent training program involves teaching parents how to play with their children in a non-directive way and how to identify and reward children's prosocial behaviors through praise and attention. The objective is for parents to learn to break the coercive cycle by increasing their social rewards and attention for positive behaviors and reducing their commands, questions, and criticisms. Parents also learn to use social and tangible rewards for child compliance and to ignore inappropriate behaviors. The second phase of the program involves teaching parents how to give direct commands in such a way as to gain more compliance and how to use 3-minute time-outs for noncompliance. Progression to each new skill in the treatment program is contingent on the parent's achieving an acceptable degree of competence in the previously presented skill.

In this program the counselor/therapist works with individual parents and children together. Training methods include role playing, modeling, and coaching. The program utilizes a playroom equipped with one-way mirrors for observation and "bug-in-the-ear" devices through which the therapist can prompt and give feedback to parents while they play with their child. Homework is assigned in the form of daily 10-minute play sessions with the child using the strategies learned in the clinic. In this intervention the focus is on the reinforcement value of parental attention. Parents are taught to use "descriptive commenting" with appropriate behaviors—that is, to describe their children's behavior when they are acting in appropriate, positive ways—and to praise those behaviors. Parental attention reinforces and thus promotes the replacement behaviors. Only after mastering the use of positive attention are parents taught discipline techniques to limit negative behavior. Reorienting the pattern of parent-child interactions from punishment to positive reinforcement is presumed to interrupt the overlearned negative cycles in which many parents of noncompliant children find themselves, and which only promote further noncompliance. Research with this intervention has shown it to have lasting effects in reducing noncompliance and conduct problems (Forehand, Rogers, McMahon, Wells, & Griest, 1981; McMahon & Forehand, 1984).

An emphasis on the relational aspects to parenting training is found in the intervention program developed by Eyberg (1988) called "parent-child interaction therapy" (Hembree-Kigin & McNeil, 1995). While the emphasis on behavior management is maintained, the skills for child-directed play are elaborated in great detail, composed of "DRIP skills": Describe, Reflect, Imitate, Praise. Eyberg (1988) presents this program as an integration of traditional play-skill values and current behavioral thinking about child management (Eyberg & Boggs, 1989). It is felt that parents' nondirective play with their children improves children's frustration tolerance, helps reduce their anger levels, and offers more opportunities for prosocial behavior to occur (Hembree-Kigin & McNeil, 1995). Moreover, engaging in play with their children helps parents recognize their children's positive qualities. As parents learn nondirective play skills, they learn how to respond in a sensitive and genuine manner, how to relate to their child's level of development, and how to stimulate their learning. The primary goal of this training is to strengthen attachment and establish a warm, loving relationship between the parents and the child.

Incredible Years Parent Training Program—Another example of a parent training program for preschool and young school-aged children, ages 3 to 8 years, and for slightly older children, ages 5 to 10 years, are two 12- to 14-week programs developed by Webster-Stratton, entitled *The Incredible Years* (Webster-Stratton, 1984). The program makes extensive use of videotape modeling methods. The program incorporates (a) Patterson's (1982) nonviolent discipline components concerning time-out, logical and natural consequences, and monitoring; (b) components of Hanf's (1970) "child-directed play" approaches; and (c) the strategic use of differential-attention, encouragement and praise, and effective use of commands. It also includes cognitive behavioral approaches such as mutual problem solving strategies, self-management principles, and self-talk approaches to cope with depressive and self-defeating thoughts. This content has been embedded in a relational framework including parent group support and a collaborative relationship with the group leader. The use of videotape examples to foster group discussions is designed to promote parental self-efficacy and engagement with the program and reduce parental resistance and dropout (Webster-Stratton & Hancock, 1998). The videotape vignettes show unrehearsed parent models in natural situations with their children "doing it right" and "doing it wrong" in order to demystify the notion that there is "perfect parenting" and to illustrate how one can learn from one's mistakes. After each vignette, the leader facilitates a group discussion of the relevant interactions and encourages parents' ideas.

The group discussion and collaborative format were chosen to ensure that the intervention would be sensitive to individual cultural differences and personal values, as well as to enhance parents' commitment to parental self-management. Asking each parent to identify the particular positive behaviors they want to see more of in their children and the negative behaviors they want to decrease emphasizes the self-management aspect of the program. These targeted behaviors then become the focus for parents to apply the "parenting principles" that they learn in the program. In this sense the program is "tailored" to each family's individual needs and goals as well as to each child's abilities and temperament. A book for parents entitled *The Incredible Years: A TroubleShooting Guide for Parents* as well as a self-administered version of the videotape program are also available (Webster-Stratton, 1992). Research on this program has shown it to be effective either as a prevention program or as an intensive intervention for parents of children with diagnosed oppositional defiant disorder or conduct disorder (Webster-Stratton, 1990b, 1996a, 1998a).

In addition to the two BASIC programs designed to strengthen positive parenting skills, Webster-Stratton developed two other videotape training series. The first is called the ADVANCE parent training program and includes content on problem solving communication (D'Zurilla & Nezu, 1982; Spivak, Platt, & Shure, 1976). This 14-week program has been shown to enhance the effects of BASIC by promoting children's and parents' conflict management skills and self-control techniques (Webster-Stratton, 1994). The other videotape program is called *Supporting Your Child's Education* and focuses on helping parents learn how to support their children's learning at home, read with their children, help them with homework, and communicate with their teachers more successfully. This 6-week program has been shown to result in significantly increased parental involvement in their children's school-related activities at home and at school (Webster-Stratton, 1998a). Finally, Webster-Stratton developed two other videotape-based training series—one for training teachers in positive classroom management strategies and in effective methods of communicating with and involving parents, and the other for training children directly in problem solving, anger management, and social skills (i.e., *Dina Dinosaur Social Skills and Problem-solving Curriculum* [Webster-Stratton, 1990c]). In addition to the classroom management components described earlier, the teacher training program encourages teacher-parent communication via the use of positive good-news calls home, positive notes home, and brown bag lunches for teachers and parents. Teachers also are shown how they can have productive conferences with parents and collaborate effectively to develop coordinated home-school behavior plans.

Essential Features of Effective Parent-Family Training Programs

As demonstrated throughout this chapter, a parent component is critical to the success of programs for preventing or reducing antisocial behavior, including school violence. The above review of parenting programs was not comprehensive, focusing instead on the few programs that have been shown to be effective based on rigorous evaluation standards. Given the powerful potential of these programs, school psychologists involved in preventing and reducing school violence should carefully consider how to integrate such programs into a comprehensive school-wide plan. In this section we present information that is useful for implementing parent-school cooperative interventions plans.

There are several excellent literature reviews of parent training programs for the prevention and treatment of conduct disorders (e.g., Brestan & Eyberg, 1998; Taylor & Biglan, 1998; Webster-Stratton, 1998b), to which school psychologists should refer when evaluating the appropriateness of a particular parent program for their school. These reviews generally conclude that the most effective parent programs include the program content, methods, and processes shown in Table 7.

Central to a program's success is a parent-teacher partnership approach, which leads to both parents and teachers feeling more supported in their efforts, and results in an intervention that will be far more successful than one that targets either teachers or parents alone. Likewise, a systems perspective is important, especially over dealing with chronically aggressive children. A systems perspective should be integrated with the traditional skills training component—a perspective that emphasizes the importance of children's interactions within the social fields of family, peers, school, and community (the microsystem) as well as the connections between these social fields (Bronfenbrenner, 1979). The child's bonding to social institutions, both family and school, as well as the family's bonding to the child and school are believed to be critical features in prevention of antisocial behavior. For example, as noted earlier, many parents of children with conduct problems have had negative encounters with teachers concerning their children's behavior problems. Such encounters add to parents' feelings of incompetence, their sense of helplessness regarding strategies to solve the problems, and their alienation from the school. This spiraling pattern of child negative behavior, parent demoralization and withdrawal, and teacher reactivity ultimately can lead to a lack of connection and of consistency between the socialization activities of the school and home.

In a recent study, teachers reported that parents of high risk children were less interested in knowing the teacher, seemed to hold different goals for their child, and seemed to value education less than did parents of low risk children (Coie, Lochman, Terry, & Hyman, in press). In the case of ethnic and racial minority families, some of these differences may be cultural (e.g., traditional respect for teachers in Asian culture may result in parents' reluctance to get to know

TABLE

Summary of Best Practice Principles for Family and Parent Focused School Violence Prevention and Intervention

Program content is broad-based.

The program's content is relevant and sensitive to individual parent needs and family circumstances. Research indicates that broad-based family programs that focus on parenting skills, problem solving, communication, personal family issues and a wide range of risk or protective factors are more effective than programs that are strictly focused on parent skills. This holds especially for parents who are coping with family issues such as serious depression, drug abuse, marital discord, and extreme poverty.

Program content includes cognitive, behavioral, and affective components.

The program emphasizes parents' feelings and cognitions about themselves, their parenting, and their children. The program promotes parent self-management as well as understanding of behavioral principles and skills. Such programs tend to have high consumer satisfaction and lasting effects.

The program's length is greater than 20 hours.

The program is at least 20 to 40 hours in length. Programs of such length have more sustained and significant effects than shorter interventions. The advantage of offering parenting programs in schools is that parenting programs can be offered at key transition points such as entry to kindergarten, middle school, and high school. This not only provides a lengthier and more comprehensive approach but also provides parents with periodic "boosts" to keep up their efforts at home and to facilitate ongoing relationships with new teachers.

The program starts early and is developmentally focused.

There is evidence that the younger the age of the child at the time of intervention, the more positive will be his or her behavioral adjustment at home and at school. This does not mean parent interventions should not be offered to parents of adolescents with antisocial behavior but rather aims to point out that research suggests it is far easier to turn around aggressive behavior problems when children are young than when they are adolescents. By adolescence, aggression has become a stable way of coping with conflict, negative reputations for these children are firmly established in schools, they have had ongoing experience with chronic rejection since the preschool years, and their only friends are other deviant adolescents like themselves. Moreover, parents have experienced years of pain and helplessness and may have given up hope. Parenting programs need to focus on particular developmental stages and ages such as the preschool and beginning school years (4 to 8 years), primary school, middle school, and adolescent years. Programs that try to address parenting issues for all ages in one program are doomed to failure because parents may easily get confused about what strategy is used for what age level and it is more difficult for leaders to cover all the material in a comprehensive manner. For example, Time Out works well with children 4 to 10 years old but work chores and loss of privileges work better with adolescents.

Program uses a collaborative process with parents.

Programs that are collaborative, where parents are given responsibility for identifying their own goals and developing their own solutions alongside the person who is doing the parent training, result in more parental engagement, fewer dropouts and are perceived as more culturally sensitive. When parents perceive parenting programs as meaningful and relevant to their own needs and cultural traditions the result will be greater attendance, retention, and behavior change.

Table 7 continued on p. 49

TABLE 7
Summary of Best Practice Principles for Family- and Parent-Focused School Violence Prevention and Interventions*
(continued)

The program focuses on parents' strengths (not deficits).

Programs that are focused on parents' strengths (as opposed to their deficits) assuming that even the most highly stressed parents bring knowledge and expertise regarding their child and their needs, result in less dropout and more behavior change.

The program involves partners and builds social networks.

Programs that are offered to parents in groups, that encourage partners' involvement and build within-group buddies among parents, not only are more cost effective but also reduce parents' sense of isolation and increase their sense of support as well as result in more lasting effects.

The program utilizes performance training methods.

The training methods need to be responsive to a variety of parental learning styles and utilize "performance-based" training methods such as videotape modeling, role-playing, and home practice assignments. Direct feedback, instruction, and experience with practicing different parenting approaches are more effective in bringing about behavior change than "verbal-based" learning methods (e.g., discussion and written handouts).

The program emphasizes group leader skill.

Programs that have trained leaders who are friendly, collaborative, non-hierarchical, non-judgmental, supportive and caring, and who demonstrate a coping model are more effective than program leaders who are "expert," distanced, and prescriptive.

The program is sensitive to barriers for low socioeconomic families.

Successful programs need to be accessible and realistic given the practical constraints of parents living on welfare or who are among the "working poor." These programs often provide child care, transportation, food, and evening groups as well as daytime groups. Moreover, weekly calls from leaders and buddies are necessary to engage families, particularly highly stressed families, and result in lower dropout rates and higher attendance.

The program is based on one or more empirically validated parent training programs.

Extensive research indicates that parent training is the single most effective intervention available for reducing early conduct problems. The short-term treatment outcome success has been verified by a number of researchers who have reported significant changes in parents' and children's behavior and in parental perceptions of child adjustment. Home observations have indicated that parents are successful in reducing children's levels of aggression by 20% to 60%. Generalization of behavior improvements from the clinic setting to the home over reasonable follow-up periods (1 to 4 years) and to untreated child behaviors has also been demonstrated. Although there is mixed evidence whether generalization of improvements holds from home to school, studies have indicated that improvements in the child's behavior at home are not necessarily reflected in teachers' reports of improved peer relationships, particularly if teachers are not involved in the intervention. However, there is evidence that when parent training programs are combined with child social skills programs and teacher training there is greater and more lasting improvement across home and school.

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*References are provided in the text.

the teacher personally). In any event, these differences between high risk and low risk families suggest that intervention requires not only training both parents and teachers to promote appropriate social-cognitive and behavioral skills, but also a conscious and proactive effort to promote healthy bonds or "supportive networks" between parents and school, child and school, and parents and teachers.

Helping parents to build supportive networks is particularly important for those parents characterized by insularity and lack of social support. Insularity is defined as "a specific pattern of social contacts within the community that are characterized by a high level of negatively perceived social interchanges with relatives and/or helping agency representatives and by a low level of positively perceived supported interchanges with friends" (Wahler & Dumas, 1984). Mothers characterized as insular are more aversive and use more aversive consequences with their children than noninsular mothers. Parents who are isolated, stressed and depressed may perceive teachers and counselors more critically, contributing to negative exchanges not only with their children but also with school personnel. These negative exchanges may be misunderstood or taken personally by teachers, thereby contributing to their critical responses to parents and their children. Insularity and lack of support have also been reported to be significant predictors of a family's relapse or failure to follow through with intervention plans (Webster-Stratton, 1985b). On the other hand, social support is an important protective factor for parents (Dumas & Albin, 1986). Social support buffers the effects of stressful events and directly contributes to parents' feeling of well-being (Cohen & Wills, 1985; Kessler & McLeod, 1985). Social support affects parents' behavior toward their children and the success of family interventions (Heinicke, 1990; Wahler & Afton, 1980).

Overcoming Obstacles to Implementation

Most of the obstacles that apply to parent-family training programs also apply to school-based prevention and intervention programs in general. This would include inadequate funding resources and facilities; too few staff and/or inadequately trained staff; and the lack of program support and commitment on the part of administrators, staff, and parents. Certain obstacles are more specific to parent training programs. Primary among these obstacles is parent participation. Unfortunately, about half of all families that begin parent management training or family therapy programs drop out (Kazdin, 1996). Factors commonly associated with high attrition include socioeconomic disadvantage, minority group status, parent and family stress, family dysfunction, logistical obstacles (e.g., transportation, child care, when classes are offered), the severity of the child's problems, and the parent disliking the trainer/therapist or believing that the program will not help (Kazdin, Holland, & Crowley, 1997).

It is unknown whether attrition rates are similar for school-based preventive programs. Although reports of poor parent participation in school-based parent programs appear in the literature (e.g., Kumpfer, Molgaard, & Spoth, 1996), one might expect more favorable attrition rates for school-based programs given that schools often offer a more accessible and less stigmatizing setting than the typical mental health clinic. Indeed, there is evidence to suggest that parents of children with behavior problems are more willing to attend group-based parenting classes at school than individually tailored sessions at a mental health clinic (Cunningham, Bremner, & Boyle, 1995). A likely advantage of offering parent interventions in families' natural communities (versus in mental health clinics) is that parents will develop lasting friendships, ongoing support groups in their communities and schools, and closer relationships with teachers and school staff.

Several studies have reported success in overcoming poor parent participation and high attrition. For example, the FAST Track program enhanced recruitment and participation rates by paying each family $15 per 2-hour session, providing child care during the sessions, matching the ethnicity of the staff with that of the families, and by providing ongoing social support (McMahon & Slough, 1996). Unfortunately, few schools can afford the costs of several of these practices. A less costly practice was found to be effective in reducing attrition in a study by Prinz and Miller (1994): Their program simply allowed for the frequent discussion of adult-generated issues.

CONCLUSION

Teachers across the nation are faced daily with students who exhibit high rates of aggression, inattention, hyperactivity, defiance and non-cooperation. Indeed, conduct problems in students are escalating and emerging at younger and younger ages (Campbell, 1990; Webster-Stratton & Hammond, 1998a). Studies have indicated that anywhere from 7% to 20% of preschool and school-age children meet the diagnostic criteria for oppositional defiant disorder and conduct disorder (American Psychiatric Press, 1994). These rates may be as high as 35% for low income families receiving welfare (Webster-Stratton & Hammond, 1998a). These children present management problems for teachers and parents. They also present a problem for their peers, through their bullying and classroom disruption upon entering school.

The need for teachers and parents to successfully manage young children who are aggressive and oppositional is urgent because, if left unmanaged, these behaviors are stable over time and appear to be the single most important behavioral risk factor related to escalating violence and antisocial behavior for boys and girls in adolescence (Kellam et al., 1991; Patterson, 1982). Early onset of aggressive behavior in young children repeatedly has been found to predict the development of drug abuse and delinquency in adolescence (Brook, Whiteman, Gordon, & Cohen, 1986) as well as other problems such as peer rejection, depression, and school dropout (Kazdin, 1985). Clearly, intervention starting in the early school years is a strategic way to prevent or reduce aggressive behavior problems before they "ripple" into well-established negative reputations, escalating violence, and academic failure (Bierman, Miller, & Stabb, 1987; Coie, 1990; Dodge, Bates, & Pettit, 1990). In fact, there is some evidence to suggest that if children with aggressive behavior problems are not treated by age 8, their behaviors are more likely to become a chronic disorder (Walker, Colvin, & Ramsey, 1995). Unfortunately, recent projections suggest that approximately 70% of the children who need mental health services for conduct problems—in particular, young children—do not receive them (U.S. Congress, Office of Technology Assessment, 1991). Very few of those who do receive treatment ever receive an intervention that has been empirically supported (Brestan & Eyberg, 1998; Kazdin & Kendall, 1998).

School psychologists can play a critical role in helping schools and communities implement effective prevention programs that have the potential to have the dual benefit of making schools safer from violence and at the same time reducing the incidence of antisocial behavior and juvenile crime. To this end, we have described a number of empirically validated classroom, family-focused, and campus-wide interventions that schools can utilize to influence and support effective school and family functioning. When schools offer such comprehensive programs, they can expect to have reduced levels of conduct problems and school violence, increased academic success, and increased collaboration between home and school.

RECOMMENDED RESOURCES

Artiz, S. (1998). *Sex, power, and the violent school girl.* New York: Teachers College Press.

Explores the topic of violent crimes and behavior among females, presenting historical trends of violence and aggression among females and discusses competing explanations for this increase. The primary value of this book is the inclusion of six detailed case histories of female adolescents who were referred for counseling because of violent behavior at school.

Lockwood, D. (1997). *Violence among middle school and high school students: An analysis and implications for prevention.* Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Provides much needed information about the antecedents and processes involved with schoolyard fights. Drawing from interviews with students, the report discusses interactions that provoke fights and the rationalizations used by students to explain why fighting takes place. Of particular importance to school violence prevention efforts is the finding that students overwhelmingly believed that their fighting behavior was completely justified because of the provocation of another student.

Poland, S., & McCormick, J. S. (1999). *Coping with crisis: A resource for schools, parents, and communities.* Longmont, CO: Sopris West.

Offers practical strategies for school psychologists, educators, and others who respond to school crises such as shootings, suicides, fights, and gang-related violence. Step-by-step information and case studies are presented.

Webster-Stratton, C. (1999). *How to promote children's social and emotional competence.* Thousand Oaks, CA: Sage.

Designed for teachers, school psychologists, and others who work with children ages 4 to 10 years. Describes classroom strategies, games, activities, and materials for use by teachers in the classroom or for psychologists running social skills groups designed to promote social and emotional competence. Topics include ways to help students manage their emotions, friendship skills, problem solving, setting up individual behavior plans, developing relationships with difficult students, and approaches for working with parents.

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CHAPTER 2:
Promoting Social & Emotional Competence in Children

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As we begin the twenty-first century, children and youth have unprecedented opportunities available. At the same time they will face new challenges that are unlike those of preceding generations. Recent newspapers, magazines, professional publications, and other media sources have been overflowing with discussions of technological, social, environmental, cultural, and economic changes that are predicted to occur in our lifetimes. Although it is often difficult to decide which so-called experts will be most accurate in their projections, we can be certain that life will be different, and that schools and educators will have to make adjustments to address these changes. Consequently, these will be exciting times to be involved in education.

Some things, however, will not change in the foreseeable future. For example, there will continue to be too much interpersonal violence, and individuals and entire countries will be unable to resolve their differences so that there are no clear winners and losers. Families will be torn apart by divorce, abusive relationships, and poverty. Drug abuse, tobacco use, academic failure, school suspension, school dropout, sexually transmitted diseases, and unwanted teen pregnancies will remain substantial problems for too many young people. These issues are often viewed as outside the scope of schools and instead as more in the public health, social service, or juvenile justice domains. Yet, such issues cannot be ignored by educators because educators are expected to teach all children, despite the fact that too many students arrive at school not fully prepared to engage in the role of learner and not ready to benefit from schooling (Kolbe, Collins, & Cortese, 1997). These issues present opportunities for school psychologists and other professionals to have a major impact on the lives of the students and families they serve. However, doing so will involve a key change in their traditional orientation to service delivery.

Necessity, as well as convention, seems to require that most educational programs be organized and delivered so that they meet the needs of the vast majority of the student population—that is, those who are at or near "average." The system is also set up so that those students who do not succeed within the mainstream, whether it be due to difficulties with learning, social skills, attention, stress, or anger management, can receive assistance primarily through a multitude of remedial programs (e.g., Title 1, special education). To further address these issues, many schools have instituted innovative early intervention/secondary prevention programs, such as intervention assistance programs (Zins, Curtis, Graden, & Ponti, 1988) that have achieved some degree of success (Zins, Heron, & Goddard, 1999). What continue to be lacking, however, are systematic, comprehensive methods to keep problems from occurring and to prepare students to deal successfully with the many challenges they inevitably will face. In other words, most schools do not have in place universal prevention and promotion programs that may help students avoid academic, social, and emotional failure and enhance their cognitive, affective, and physical well-being.

In our widely disseminated book *Promoting Social and Emotional Learning* (Elias et al., 1997), we suggested that the primary goal for schools is to prepare children to become knowledgeable, responsible, and caring citizens. Further, we stated that this goal can be achieved through "thoughtful, sustained, and systematic attention to children's social and emotional learning (SEL)" (p. 1). Our research indicates that thousands of schools throughout our country have come to realize the importance of SEL. These schools have found that when they "attend systematically to students' social and emotional skills, the academic achievement of children increases, the incidence of problem behaviors decreases, and the quality of the relationships surrounding each child improves" (p. 1). Clearly, these are outcomes that school psychologists and most schools in general value and seek to attain.

In this chapter we describe practical strategies that school psychologists can use to contribute to the *social and emotional* learning efforts of schools to benefit *all* children. Although few university training programs in school psychology place significant emphasis on a prevention or health promotion role (Fagan, 1990), it has been our experience that increasing numbers of school psychologists recognize that they must broaden their roles to include such activities. It is easy to understand their interest. A growing segment of our country's young people are experiencing, or are at risk for, social, behavioral, and health problems that may interfere with their potential to become productive, contributing, and responsible citizens. Recent estimates suggest that 25% of those between 10 and 17 years of age are extremely vulnerable, and another 25% are moderately vulnerable, to the negative consequences of engaging in multiple high risk behaviors that may result in outcomes such as retention, AIDS, injury, dropping out of school, delinquency, and drug abuse. Although the other 50% are at less risk, they nonetheless require continued support and attention to help them avoid involvement in these behaviors (Dryfoos, 1990). To further complicate this issue, some have suggested that fewer than a quarter of the youth who have mental health problems severe enough to warrant treatment receive appropriate services (Tuma, 1989). School psychologists face these children on a daily basis, and many consequently have come to realize that traditional approaches to services delivery are not adequate to meet these needs (Zins & Forman, 1988). They must find realistic, cost effective, and innovative means of helping more children.

In this chapter we start with a brief discussion of conceptual issues that form the foundation for effective prevention and intervention efforts. This material leads to some practical guidelines and ideas that readers should find useful in their own SEL efforts, regardless of whether they are new to the field or seasoned veterans. We then provide examples of some applications of these ideas. Various resources listed at the end of the chapter supplement all of this information. Collectively, this material should assist all readers in becoming more prevention- and promotion oriented. Further, those who have been frustrated in their efforts to engage in prevention activities because they perceived schools as uninterested, should also find helpful information. We see increasing opportunities for all school psychologists to pursue SEL goals. Interest in the area has never been greater, thanks in part to the efforts of people like Dan Goleman and his best-selling book, *Emotional Intelligence* (1995), and Howard Gardner (1983) and his theory of multiple intelligences, especially the interpersonal and intrapersonal aspects. At the same time our understanding of the role of the brain in emotional development has increased (e.g., Sylwester, 1995), and we have improved our techniques for delivering high quality prevention programs (e.g., Weissberg & Greenberg, 1998). Now the challenge for school psychologists is to take advantage of this interest and the new knowledge that has been developed to benefit children and families.

EFFECTIVE STRATEGIES

We begin this section with a discussion of several important conceptual issues related to the delivery of effective prevention and promotion services. This presentation leads into a description of effective practice.

Universal Prevention and Promotion

Universal preventive interventions are directed at all students regardless of their risk status. Such interventions are one means to reduce or eliminate many of the *risk factors* that lead to many of the problems described above. Risk-focused prevention is based on the premise that, "to prevent a disorder, it is necessary to reduce, eliminate, or mitigate the effects of factors that put people at risk for the disorder" (Consortium on the School-Based Promotion of Social Competence [Consortium], 1994, p. 271). Epidemiological and etiological studies, which form the basis of prevention science, have identified many risk factors, and these factors can be targeted by preventive interventions (Coie et al., 1993). These risk factors may be found at the individual level (e.g., early aggressive behavior), in the family environment (e.g., harsh and inconsistent discipline), in peer and social interactions (e.g., association with antisocial peers), in school experiences (e.g., academic failure), and in community contexts (e.g., neighborhood instability) (Consortium, 1994). Further, we know that exposure to multiple risk factors places one at greater likelihood of a disorder (Dryfoos, 1990; Rutter, 1990). Research has also indicated that a number of risk factors are common antecedents to many maladaptive behaviors or disorders (Rutter, 1990), which means that separate intervention programs are not needed for every problem area. Coordinated prevention efforts can target multiple problems.

In addition to risk factors, there also are *protective mechanisms* that have been identified that may mitigate the effects of being exposed to risk (Rutter, 1990). There are multiple aspects to these protective factors. They include attributes of the individual (e.g., resilient temperament, sense of self-efficacy), a supportive family environment (e.g., bonding with adults), and environmental supports (e.g., supportive and nurturing school climate) (Consortium, 1994). These factors may help individuals deal with the risks they inevitably will face.

Based on the risk and protective factors described above, prevention and promotion efforts can be directed in two ways. First, they can be targeted at reducing risks, such as establishing K through 8 schools to enable students to stay within a more personal, nurturing environment longer, and to decrease the number of transitions they must experience, as these tend to be times of high risk. Other examples include decreasing portrayals of violence in the media or keeping illegal drugs, weapons, and tobacco products out of schools. Second, efforts can be aimed at enhancing protective mechanisms that moderate or mediate exposure to risk, such as teaching social and emotional skills, stress management, study skills, or providing mentors for students entering high school so that they establish a close, caring relationship with an adult. As noted above, it is not necessary to specifically target all potential problems that children may face because many have common risk factors associated with them.

Social and Emotional Learning

Similar to many other fields, those involved in SEL have been struggling to define social and emotional learning/competence for years. Many terms have been used to refer to efforts designed to enhance children's social and emotional competence, but we prefer SEL. We view SEL as an umbrella concept that provides a common framework for programs with diverse intended outcomes. It refers to the knowledge and skills that children acquire through social and emotional education, instruction, activities, or promotion efforts. Included are activities such as social skills education (including social problem solving, decision making, assertiveness, etc.); alcohol, tobacco, and other drug prevention and resistance programs; violence prevention and conflict resolution; sexuality education; health education and promotion; and character or citizenship education. Also likely to be associated are components for creating an environmental context to support these efforts. Thus, our first guideline for social and emotional education is that

Educators at all levels need explicit plans to help students become knowledgeable, responsible, and caring. Efforts are needed to build and reinforce skills in four major domains of SEL:

1. Life skills and social competencies;
2. Health promotion and problem prevention skills;
3. Coping skills and social support for transitions and crises; and
4. Positive, contributory service (Elias et al., 1997, p. 139).

Being socially and emotionally competent involves the ability to adapt and integrate behaviors (actions), cognition (thinking), and emotions (feeling) to achieve specific goals. It also includes understanding, managing, and expressing the social and emotional aspects of daily living to attain success in the academic, interpersonal, and health areas. Examples of skills associated with social and emotional learning include being competent in the following key areas:

- ☐ Being aware of feelings;
- ☐ Regulating feelings;
- ☐ Accurately perceiving the perspectives of others;
- ☐ Analyzing social norms;
- ☐ Possessing a sense of self-efficacy;
- ☐ Intending to engage in safe, healthy, and ethical behaviors;
- ☐ Intending to be fair, just, charitable, and compassionate;
- ☐ Having respect for others and appreciating differences;
- ☐ Correctly identifying problems;
- ☐ Setting positive and realistic goals;
- ☐ Developing positive and informed problem solutions;
- ☐ Listening and attending to others;
- ☐ Communicating clearly both verbally and nonverbally;
- ☐ Cooperating with others;
- ☐ Resolving conflicts peacefully;
- ☐ Asserting oneself and resisting negative pressure; and
- ☐ Identifying the need for assistance and how to access it (Payton, in press).

In other words, the person must have the skills to engage in positive, safe, health-protective and health-enhancing behavior practices, and to build positive relationships with peers and adults. This list is not meant to be exhaustive but rather to give readers examples of the types of skills that a socially competent student might possess.

For over two decades each of us has been involved in trying to identify the common components of effective school-based social competence promotion efforts. Our research, reviews of the research and theoretical literature, examinations of and visits to operating programs throughout the country, and personal experiences in implementing and evaluating SEL programs, have enabled us to reach a consensus to answer this question. Our findings are summarized as 39 guidelines for social and emotional education (Elias et al., 1997). A review of these guidelines is beyond the scope of this chapter, but many of them are cited throughout it. Essentially, what we found is that to be effective, these efforts should

- ❑ Be comprehensive, multiyear, multicomponent, and systematic;
- ❑ Be based on a strong theoretical base;
- ❑ Be developmentally and culturally appropriate;
- ❑ Be integrated into and reflected in the overall curriculum, daily routines (e.g., lunchroom, recess), and extracurricular activities;
- ❑ Lead to a caring, supportive, and challenging classroom and school climate;
- ❑ Teach a broad range of skills that have personal and social applications, such as self-control, stress management, problem solving, decision making, communication, peer resistance, and assertiveness;
- ❑ Be provided by well-trained staff who receive adequate, ongoing support from the organization;
- ❑ Involve school, family, and community partnerships;
- ❑ Have mechanisms in place to ensure high quality program implementation; and
- ❑ Include well thought-out, systematic monitoring and evaluation components involving multiple indicators.

In other words, stand-alone, one shot, single grade programs alone are limited in the impact that they can have on social and emotional development. Unfortunately, a large number of current efforts in our schools fall under this category. Such programs cannot be expected to generalize to multiple prevention domains, and it should not be anticipated that they would protect children against negative influences throughout their school careers.

Likewise, information-only programs or those that focus independently on children are not as effective as those that simultaneously focus on children, their families, and communities, and bring about positive changes in the school and broader environments (Greenberg, Zins, Elias, & Weissberg, 2000).

Social and emotional education can involve a variety of efforts in the classroom and school designed to enhance children's prosocial development, but it is essential that these activities be delivered in a planned, systematic manner, and coordinated throughout the school on an integrated, programmatic basis. Thus, while individual classroom efforts certainly help foster children's SEL, these activities should be supported by a variety of school-wide and family elements to be most effective. Finally, it should be recognized that SEL programs directed toward students who are experiencing significant problems are an important element of a school's overall service delivery program, as SEL instruction is necessary for all children regardless of risk status.

IMPLEMENTATION ISSUES

Prerequisites

Effective consultative problem solving and collaboration are the foundation on which prevention and promotion programs are based (Zins & Wagner, 1985, 1997). Those involved in implementing programs must work cooperatively and engage in a reciprocal, systematic problem-solving process throughout the entire social and emotional education process. Implementation is complex, and it involves far more than the actual delivery of a program each day. Among the facets of the process are decisions regarding goals; whether to implement a program; what program to implement; how to implement it; whom to involve in the process; how to ensure adequate staff training and support; and monitoring and evaluating outcomes. There usually are many people who can have quite different perspectives and goals, and who must nevertheless be able to work together collaboratively. Among their tasks are to identify local needs; evaluate available programs and adaptations that may be required; involve key personnel; determine current and needed staff training; and consider what outcomes should be assessed. School psychology has been in the forefront in developing models for school consultation (Zins, Kratochwill, & Elliott, 1993), and most contemporary practitioners have received at least some training in these skills. Consequently, most are prepared for this aspect of program implementation.

Goals

A first step in implementation is for educators, as well as parents and other constituents, to decide what they want students to achieve in terms of SEL outcomes. Ideally, this identification of SEL goals should be done for each classroom, school, and by district. When classroom, school, and district SEL goals are congruent there is a greater likelihood that the intervention will succeed. Most would agree that social and academic success, a sense of personal well-being, high self-efficacy, and the skills to participate in school, home, and community life in an ethical, responsible manner are very important (Elias et al., 1997). Assuming agreement on these general goals, the next step is to determine what specific skills to teach at different grade levels and how to make this happen.

Before beginning the discussion about steps to take to implement an SEL program, it is acknowledged that two related objections to these programs frequently are voiced. First, they are seen as a frill. Some would argue that schools need to concentrate their efforts on academic achievement because there simply is not enough time to address other topics, regardless of their merits. Second, these issues are viewed as societal in nature or otherwise outside the scope of schools. It usually is best to address these concerns directly. The case must be made that social and emotional education is associated with educational outcomes. Students who come to school unprepared to be effective learners are not going to achieve as well as those who are ready to learn. Positive peer relationships, feeling cared for and safe, having high self-efficacy, and being able to engage in effective social problem solving, are all elements of academic success. Although many of the problems being targeted by SEL programs have societal components, it nonetheless is imperative for schools to address them. No other institution in our society has access to virtually all children. In addition, the weakening of many of our social institutions places increased demands on schools to fill the gaps (Short & Talley, 1997). As a result, many have come to view schools as centers for widespread SEL and health promotion efforts (e.g., Dryfoos, 1994).

Needs Assessment

Unless schools systematically identify their specific SFL needs, as well as their current related activities, there is risk that their efforts will be directed at the wrong targets and thus not be successful. In other words, a packaged program should not simply be obtained and implemented without making sure that it meets the identified local needs. Relevant constituencies including students, parents, teachers, and even the broader community should be asked to provide input. Those involved in educating students with special needs also need to be involved. In addition to examining information from these groups, it is important to review related mandates (e.g., Safe, Disciplined, and Drug-Free Schools), existing efforts (e.g., social skills groups conducted by the school psychologist), and staff skills (e.g., knowledge of cooperative learning techniques), so that a clear understanding of current needs, available resources, strengths, limitations, and potential barriers emerges. Most school psychologists are among the best prepared to engage in the needs assessment aspect of program implementation.

A useful tool for conducting an SEL assessment of existing strengths as well as gaps needing to be filled was created by Elias et al. (1997; see chapter 2). This self-study is not at all technical and it allows a school or district to give itself credit for SEL work done by teachers and other educators, and those working at the classroom, grade-wide, school-wide, or district levels. It includes questions to assist in the self-assessment process in five areas: (a) identifying your SEL goals and activities to help students become knowledgeable, responsible, and caring; (b) developing social and emotional skills through integrated classroom instruction; (c) creating a context for coordinated SEL programs that involves parents and the community; (d) introducing and sustaining social and emotional education; and (e) monitoring and evaluating SEL program efforts. These areas form the basis for much of the discussion in this section. Clearly, school psychologists can play a critical role in conducting and writing up such assessments.

Although many of these issues may be reasonably straightforward, what may not always be clear and easy to address is coordinating efforts (e.g., rules, policies, practices) already in place with any new initiatives. "Goodness of fit" must be determined. The problem is that, in most schools, teachers operate in relative isolation and there are few opportunities for them to engage in collaborative planning and problem solving (Illback, 1997). Organizing schools so that these interactions can take place easily is consistent with other structural changes that are needed for effective SEL.

The context in which the SEL instruction takes place should also be examined. Is the overall school or district organizational climate conducive to supporting social and emotional education? Are there relevant policies in place that are consistent with SEL? What support exists for these efforts? Do staff have the necessary capacity to engage in these practices? Is there the capability to evaluate the effectiveness of the SEL efforts?

Selecting a Program

Once school goals, needs, and resources are determined, the next challenge is to decide on a program to implement. Too often, programs are "pulled off the shelf" because a district or school is faced with a crisis (e.g., violence) and they feel pressured to find an immediate solution. For example, after the school shootings that occurred in recent years, each of us was approached by various schools and asked what violence prevention program should be implemented to address the issue. The implicit expectation was that their needs in this area could be addressed without a great deal of planning and other preparation. Likewise, decisions are sometimes made because of simple program availability. Project DARE (Drug Abuse Resistance Education), for instance, can be found in countless schools throughout the country and is one of the most widely disseminated programs (Clayton, Cattarello, & Johnstone, 1996). However, the preponderance of the research studies suggests that DARE has no long-term effects on drug use (e.g., Dukes, Stein, & Ullman, 1997). In a recent 10-year follow-up investigation, for instance, researchers found no more successful outcomes in those exposed to DARE compared with others exposed to a standard drug-education curriculum (Lynam et al., 1999).

Based on our earlier description of the characteristics of effective programs, it should not be surprising that program selection is a complex and involved process. Currently, however, there are few guidelines in determining the most appropriate SEL program for a specific classroom, school, or district. Throughout this chapter we have attempted to outline many of the most important issues that can be applied in making these decisions. The guidelines in our book (Elias et al., 1997) provide further direction in this regard.

An additional problem is that it often is difficult to determine what programs are available. One place to start is the Web site of the Collaborative to Advance Social and Emotional Learning (CASEL) (www.CASEL.org). It includes an extensive list of over 100 nationally available SEL programs, and it is updated regularly.[1]

One of the most important issues to consider in program selection is its efficacy. That is, has the program been evaluated to demonstrate that it works? Too often, this issue apparently is ignored, as illustrated by the history of DARE. It is crucial that program developers provide such information. This information also is helpful with respect to learning what particular components of a program are effective.

In the following sections, several additional issues related to program selection are discussed. These include the need for multiple constituencies to be involved in this decision. Furthermore, in virtually all cases there must be adaptations of the program to reflect local needs, resources, current efforts, staff, and so forth, but as will be discussed, guidance is often lacking on how to tailor programs without reducing their integrity.

Involving Gatekeepers and Stakeholders

Because most school psychologists are employed by the schools rather than being external consultants, they generally are sensitive to the necessity of involving key individuals within the system in program implementation. In fact, their role as ancillary personnel usually precludes them from making the decision to implement a program without the involvement of many other decision-makers. School psychologists can play a critical role in advocacy and readiness by working with educational leaders to convince relevant constituents such as teachers, parents, the larger community, and even students, that the program is necessary. A sense of ownership is especially important to teachers and parents. Participants will have far more commitment to carrying out the program with integrity and making sure that it is successful if they believe there is a need for it, and if they have been involved in its planning and development. Moreover, top-down, imposed programming runs contrary to the whole concept of SEL. As noted at the beginning of this chapter, there seems to be a high level of interest in SEL today, and school psychologists can take advantage of this interest to introduce the notion of SEL to their schools.

Staff Preparation and Support

Most educators have not received preservice training in SEL, although coursework now is being offered at an increasing number of universities (see the www.CASEL.org Web site for current efforts in this area). However, it will take some time before such preparation is widespread. Consequently, plans need to be developed to provide the staff who will deliver and supervise the program with sufficient knowledge and skills to ensure effective delivery. Thus, teachers as well as administrators require training and support. If the importance of creating a supportive organizational climate is taken seriously, it is clear that the training must involve more than the instructional staff; other members of the school organization such as secretaries, bus drivers, cafeteria workers, and maintenance personnel also should be able to deliver the SEL message. Mechanisms and resources must be in place to make sure that sufficient moral support is provided, technical assistance is available as needed, and that consultative problem solving can take place when difficulties arise. In addition, organizational structures should be examined to ensure that the staff will have the opportunity to interact frequently with one another to facilitate effective program delivery. In each of these aspects, school psychologists have the opportunity to play integral roles.

Treatment Integrity Issues

For many years, in the school psychology literature, there has been acknowledgment of the importance of ensuring that interventions are delivered as planned (e.g., Gresham, 1989). These discussions primarily have involved one-to-one consultation and/or individually focused behavioral interventions. However, the issue is also applicable to prevention and promotion programs because if teachers and others who implement the programs do not deliver them as planned, we cannot be certain why change occurred or did not occur. Given the need for local adoption, it is difficult to know to what extent a program can be adapted while still retaining the essential characteristics of the original intervention. It is important with SEL (or any intervention) programs to assess whether the program was implemented as planned, and also to measure the quality of the implementation. Unless these aspects are evaluated, it is difficult to ascertain program outcome, as well as to replicate the effort (Durlak, 1998).

It is recognized that implementation is a very complex issue, but there have been few comprehensive discussions of its many facets (Dane & Schneider, 1998; Durlak, 1998). However, Greenberg (1999) has provided some very useful ideas to consider during program implementation. He notes that it is important that the following questions be addressed by those individuals who will be providing the instructional/treatment in the school:

- ☐ Who participates in the training?
- ☐ What "dose" (frequency and duration) of training is provided to the implementers?
- ☐ What is the content of the training that is provided?

Further, Greenberg suggests that the following aspects of the actual intervention need to be examined.

- ☐ What is the content of the specific instruction that is provided?
- ☐ What mechanisms are in place to determine that the implementers provide the intervention as planned?
- ☐ Is technical assistance and support available to implementers?
- ☐ What is the quality of the delivery of the intervention?
- ☐ How do students respond to the intervention delivery?

We recognize that attending to these issues is time consuming. However, only by understanding these aspects of the program implementation process can outcomes of the intervention, as well as its strengths and weaknesses, be determined. Consequently, it may then be possible to determine what really occurred, to make improvements in the quality of the intervention, to say with some certainty that the outcomes were a result of the program, and thereby to be accountable.

MONITORING AND EVALUATION STRATEGIES

At several points we have emphasized the importance of monitoring program delivery and of determining program outcomes. As Guideline 36 from our book states, "Effective SEL programs are monitored and evaluated regularly using systematic procedures and multiple indicators" (Elias et al., 1997, p. 106). These efforts need to be examined at three levels: individual classroom, school building, and school district. There must be assurance that the program is on track toward reaching the identified SEL goals. Evidence should be obtained to demonstrate that progress is being made. At the same time, such information will be helpful in identifying problems so that changes can be made early in the program to increase the chances of being successful and also to modify future practice. Finally, everyone needs to know the ultimate outcomes. In this section we describe some general strategies that can be used to accomplish these interrelated goals.

We have found that using a collaborative problem solving approach facilitates the evaluation process. An example of its application is the model developed by Linney and Wandersman (1991) for use with prevention programs. An outline of the process and illustrations of its application are shown in Table 1.

MODEL PROGRAMS

There are many different programs that could be described in this section (see, for instance, the list of program descriptions contained in Appendix C of Elias et al., 1997). Rather than attempting a comprehensive review, our intent is to provide readers with a brief overview of available programs, and then to describe two high quality programs in more detail.

Table 2 includes eight programs representing various developmental levels that do an excellent job of promoting social and emotional learning. Evaluations of each of the programs indicate their effectiveness. The table includes the types of SEL intervention strategies that can be used and the SEL-related outcomes associated with them.

The PATHS and the SPS-SDM programs are described in this section in more detail. We decided to focus on these programs because both have a long history of careful development, they have been evaluated extensively in different settings, they have shown a number of positive outcomes, and they consequently have been widely recognized within the field for their high quality.

Promoting Alternative Strategies (PATHS)

The PATHS curriculum (Kusche & Greenberg, 1994) is designed to facilitate the development of self-control, emotional awareness, and interpersonal problem-solving skills in elementary-school-aged children. The curriculum consists of an instructional manual, six volumes of lessons, pictures and photographs, and additional materials. PATHS is designed to be used by educators and counselors/psychologists in a multiyear, universal prevention model. Although the program primarily focuses on the school and classroom settings, information and activities are also included for use with parents. The purposes of the PATHS Curriculum are to enhance the social competence and social

TABLE 1
Prevention Plus III Program Evaluation Model Applied to SEL

Step 1: Identify Goals and Desired Outcomes

A: What are the primary goals of the program?

Example: *Learning to choose friends, develop peer leadership skills, deal with conflict among friends, recognize and accept alternatives to aggression and violence.*

B: What groups were you trying to reach?

Example: *All students in middle/junior high school.*

C: What outcomes were desired or what did you hope to accomplish?

Example: *Increased interpersonal interactions, greater confidence in one's decision-making skills, more prosocial caring behaviors, and less interpersonal conflict.*

Step 2: Assess What Was Done During the Program

A: What activities were planned?

Example: *Role playing activities involving asking a friend to go to a football game.*

B: When was the program actually implemented and who were the participants?

Example: *Taught during the group guidance period at the beginning of each day during the third and fourth weeks of the first quarter.*

C: How did participants evaluate the activities?

Example: *Reported that the exercise was realistic and easy to follow.*

D: What feedback can be used to improve the program for the future?

Example: *More time should be devoted to activity so other situations can be discussed.*

Step 3: Assess Immediate Effects of the Program

Describe what changes have occurred based on the desired outcomes, evidence that the outcome was accomplished (using before and after scores), and amount of change.

Example: *Students mastered the eight steps of the role playing activity with an average of 95% accuracy.*

Step 4: Assess Ultimate Program Effects

Describe whether the ultimate goals and outcomes have been attained.

Example: *Student logs indicated that there was an increase since the second week of school until the present in the average number of interactions students had with one another outside the school from 1.3 to 1.8 per week.*

Note: From *Promoting social and emotional learning: Guidelines for educators* by Elias, M.J., Zins, J.E., Weissberg, R. P., & Associates. Alexandria, VA: Association for Supervision and Curriculum Development. Copyright © 1997 ASCD. Reprinted by permission. All rights reserved.

TABLE 2
Interpersonal Cognitive Problem Solving Steps in PATHS

STOP - WHAT IS HAPPENING?

1. Stopping and thinking
2. Problem identification
3. Feeling identification

GET READY - WHAT COULD I DO?

4. Deciding on a goal
5. Generating alternative solutions
6. Evaluating the possible consequences of these solutions
7. Selecting the best solution
8. Planning the best solution

GO! - TRY MY BEST PLAN

9. Trying the formulated plan

EVALUATE - HOW DID I DO?

10. Evaluating the outcome
11. Trying another solution and/or plan, or alternatively reevaluating the goal, if an obstacle results in failure to reach the intended goal

Note: Based on Kusche & Greenberg (1994).

understanding of children, as well as to facilitate educational processes in the classroom.

PATHS is divided into three major units that are related to the core SEL competencies described earlier (see Payton et al., in press): (a) a Readiness and Self-Control Unit, with 12 lessons that focus on readiness skills and development of basic self-control; (b) a Feelings and Relationships Unit, with 56 lessons that focus on teaching emotional and interpersonal understanding (i.e., Emotional Intelligence); and (c) an Interpersonal Cognitive Problem-Solving Unit, with 33 lessons that cover 11 steps for formal interpersonal problem solving (see Table 3). Two additional areas of focus in PATHS involve building positive self-esteem and improving peer communications/relations. There is also a Supplementary Unit containing 30 lessons that review and extend the PATHS concepts that are covered in the three major units.

The PATHS units cover five conceptual domains: (a) self-control, (b) emotional understanding, (c) positive self-esteem, (d) relationships, and (e) interpersonal problem-solving skills. Each of these domains has a variety of subgoals, depending on the particular developmental level and needs of the children receiving instruction.

In studies of regular education classes, classes for students with special needs, and those for deaf children, randomized trials indicated the effectiveness of PATHS for all three groups of children (Greenberg & Kusche, 1998a, 1998b; Greenberg, Kusche, Cook, & Quamma, 1995). Children in program showed 1-year follow-up improvements on social problem solving, self-reports of conduct problems, teacher ratings of adaptive behavior, as well as on cognitive abilities related to social planning and impulsivity. For children with special needs, results indicated posttest improvement on teacher-rated social competence, child report of depressive symptoms, as well as emotional understanding and social-cognitive skills. At 1-year and 2-year follow-ups, both teachers and children separately reported significant improvements in both internalizing (e.g., depression and somatic complaints) and externalizing behavior problems, as well as improved social planning and decreased cognitive impulsivity. The PATHS Curriculum has been designated a Blueprint for Violence Prevention (Elliott, 1998; Greenberg & Kusche, 1998b).

Social Problem Solving and Social Decision-Making Project (SPS-SDM)

The SPS-SDM program has spread from a demonstration project nearly two decades ago to a project that now includes hundreds of classrooms in nearly half the states and in several countries (Elias & Clabby, 1989). It gained approval from the National Mental Health Association, winning the 1988 Lela Rowland Prevention Award. It also was designated a model program in the NMHA Prevention Clearinghouse, the National Diffusion Network of the U.S. Department of Education and the National Education Goals Panel, events that were critical in building credibility for these efforts.

The core of the project involves building the social and emotional skills of students. It focuses on teaching self-control, group participation and social awareness, and a decision-making strategy that students can use when faced with difficult choices. The goal is to teach skills that promote successful social and academic performance and prevent problem behaviors (Elias & Clabby, 1992; Elias & Tobias, 1996)—skills that are reflected in the key SEL competencies identified by Payton et al. (in press). Below are examples of some of the modules included in the program, and they provide a sense of the flow of the activities.

1. A video program that shows children how to watch and analyze a television program; observe how people create such programs; and then use social decision making and problem solving to create their own programs, series, documentaries, and public service advertisements.
2. A program that allows students to create school and community service projects.
3. A procedure for creating parent newsletters and other school-home communications.
4. "FIG TESPN," an approach to social decision making and problem solving that takes into account the special learning needs of many children with learning disabilities. The acronym brings together the following statements: **F**eelings are my cue to problem solve; **I** have a problem; **G**oals guide my actions; **T**hink of many possible things to do; **E**nvision the outcomes of each solution; **S**elect your best solution, based on your goal; **P**lan, practice, anticipate pitfalls, and pursue it; **N**ext time, what will you do the same or differently?
5. Troubleshooting sections, where teachers can find ideas about

the tough issues and how to deal with them—such as getting started, not having enough time, and working with children who seem to place a positive value on aggressive behavior; this moves the state of practice from the basic issues to a more advanced set of concerns.

Research on SPS-SDM has been carried out for nearly two decades. The major documented effects of the program are that, relative to children who were not participants in social decision-making programs of the kind described earlier, children involved in the programs:

- ☐ Were more sensitive to others' feelings;
- ☐ Had a better understanding of the consequences of their behavior;
- ☐ Showed an increased ability to "size up" interpersonal situations and plan appropriate actions;
- ☐ Had higher self-esteem;
- ☐ Were seen by their teachers as displaying more positive prosocial behavior;
- ☐ Were sought out by their peers for help with problems;
- ☐ Better handled the difficult transition to middle school;
- ☐ Displayed lower than expected levels of antisocial, self-destructive, and socially disordered behavior, even when followed-up into high school;
- ☐ Improved in their learning-to-learn skills and in academic areas that had been "infused" with social decision making; and
- ☐ Used what they learned in self-control, social awareness, and social decision making and problem solving lessons in situations occurring both inside and outside the classroom.

Data also show that children, teachers, and other educators enjoy the program and put its principles to regular and frequent use. Taken together, the evidence gathered to date indicates that the social decision-making approach can be carried out by teachers in diverse settings.

Recent replications of many of these original findings have been carried out. For example, extent of teacher acquisition of skills in "dialoguing" and "facilitative questioning" met or exceeded those of the original sample in new sites assessed. In a comparison of an Oregon site and the original sites in New Jersey, the use of inhibitory questioning strategies declined from pretest to posttest 40% and 53%, respectively, while use of facilitative questioning increased by 35% and 117%, respectively. With regard to acquisition of interpersonal sensitivity, problem analysis, and planning skills, students in all of the recent dissemination sites showed significant pre- to posttest gains, and the effect sizes in all cases were equal to or as much as twice as large as those in the original validation sample (cf. Bruene-Butler, Hampson, Elias, Clabby, & Schuyler, 1997, and Elias & Clabby, 1992, for additional details).

CONCLUDING COMMENTS

In this chapter we identified key SEL competencies and program components that are related to effective social and emotional education. We then illustrated the application of these principles by presenting high quality SEL programs that have been found to result in positive outcomes. It is our hope that this information has stimulated readers' interest in and knowledge of the social and emotional learning field.

School psychologists stand at a crossroads, at a convergence of theory, practice, research, public awareness, and professional development. In our opinion, the crossroads represents the past and the future. The field of school-based prevention and promotion, of social and emotional learning, is in need of a professional champion. We submit that school psychologists can serve as those champions. We know that our schools will never fulfill their potential unless the social and emotional needs of children are addressed adequately in tandem with their intellectual development. Although this perception is not fully shared among all relevant constituencies, there is growing agreement that something is not right in our schools, and that our focus needs to be modified. More and more members of the community have come to recognize that we cannot be content primarily with test score success. Rather, we must also be concerned with teaching children to become responsible, caring, nonviolent, drug-free, effective problem solvers who are ready to inherit the challenges and privileges of citizenship.

To meet this need, the school psychology field must continue to shift its involvement from individually focused assessment activities to those that are more intervention oriented. Moreover, school psychologists also must take a broader ecological perspective that recognizes the totality of influences on children's emotional well-being and educational success. This orientation includes not only individual students and the school, but the family and the broader community as well. Along with other investigators, we have pioneered the research that has led to this realization. Embracing and applying this expanding knowledge base can better position school psychology to support the SEL movement.

We must continue to find ways to support an expansion of roles by individual practitioners as well as by university training programs. School psychologists must take advantage of the numerous opportunities that are presenting themselves today that may facilitate such expanded roles, and they must help the development of more opportunities in the same vein. For example, professional development workshops at state and national conferences should be shifting to reflect this greater need. At the same time we must find ways to make certain that social and emotional education can be incorporated reasonably within the recent standards movement. Additional coalitions with other groups, such as those recently begun by the National Association of School Psychologists and the National Mental Health Association, must be forged. It is our hope that this discussion, and those in the other sections of this book, stimulates additional interest—and more important, action—among school psychologists in prevention and promotion activities and in the emerging field of social and emotional learning, for the benefit of our children, families, and schools.

RECOMMENDED RESOURCES

Books, Journal Issues, Chapters

Cohen, J., Elias, M. J., Haynes, N. M., Weissberg, R. P., & Zins, J. E. (Consulting Eds.). *Series on Social and Emotional Learning*. New York: Teachers College Press.

The books in this *Series* present perspectives and exemplary programs that foster social and emotional learning for children and adolescents in schools, and include interdisciplinary, developmental, curricular, and instructional contributions. Three levels of service that constitute social and emotional learning programs are reflected in the *Series*: (a) curriculum-based programs directed to all children to enhance social and emotional competencies; (b) programs and perspectives intended for children with special needs; and (c) strategies that seek to promote the social and emotional awareness and skills of educators and other school personnel.

Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N. M., Kessler, R., Schwab-Stone, M. E., & Shriver, T. P. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: Association for Supervision and Curriculum Development.

The authors of this best-selling book draw upon the most recent scientific studies, the best theories, site visits carried out around the country, and their own extensive experiences to describe approaches to social and emotional learning for all levels. Framing the discussion are 39 concise guidelines, as well as many field-inspired examples for classrooms, schools, and districts. Chapters address how to develop, implement, and evaluate effective strategies.

Graczyk, P., Weissberg, R. P., Payton, J. W., Elias, M. J., Greenberg, M. T., & Zins, J. E. (in press). *Criteria for evaluating the quality of school-based social and emotional learning programs*. In R. Bar-On & J. D. A. Parker (Eds.), The handbook of emotional intelligence. San Francisco: Jossey-Bass.

In this chapter the need for competence-enhancement programs is established, along with related implications for the development of such programs. Social and emotional learning is presented as a unifying framework for these programs, and then criteria for examining effective programs are deduced from the discussion.

Salovey, P., & Sluyter, D. J. (Eds.). (1997). *Emotional development and emotional intelligence: Educational implications*. New York: Basic Books.

The contributors present cutting-edge research on emotions and emotional development in a manner useful to psychologists, educators, and anyone interested in the unfolding of emotions during childhood. The book links theory and practice by juxtaposing scientific explanations of emotion with short commentaries by educators who elaborate on how these advances can be put into use in the classroom.

Weissberg, R. P., & Greenberg, M. T. (1998). School and community competence-enhancement and prevention programs. In W. Damon (Series Ed.) & I. E. Sigel & K. A. Renninger (Vol. Eds.), *Handbook of child psychology: Vol. 4. Child psychology in practice* (5th ed., pp. 877-954). New York: Wiley.

This chapter presents one of the most thorough reviews of the school- and community-based prevention and competence enhancement programs for infants, children, and adolescents available. It also includes a thoughtful discussion of developmental theory, conceptual issues, training and research challenges.

Zins, J. E., Elias, M. J., Greenberg, M. T., & Kline Pruett, M. (2000). Measurement of quality of implementation of prevention programs [Special issue]. *Journal of Educational and Psychological Consultation, 11* (2).

Zins, J. E., Elias, M. J., Greenberg, M. T., & Kline Pruett, M. (2000). Issues in the implementation of prevention programs. [Special issue]. *Journal of Educational and Psychological Consultation, 11* (1).

These special issues are collaborative efforts of the Collaborative to Advance Social and Emotional Learning (CASEL) and the Society for Community Research and Action (SCRA) of the American Psychological Association. They contain multiple perspectives from a diverse group of contributors, so that rich analyses of issues related to prevention program implementation are presented.

Web Sites

www.CASEL.org

The web site of the Collaborative to Advance Social and Emotional Learning provides a variety of resources and information specifically about social and emotional learning to a national and international audience.

www.character.org/schools

This is the web site for Character Education Programs. It includes a Program Evaluation Bibliographic Index.

www.communitiesofhope.org

A video training kit, Lessons for Life: How Smart Schools Build Social, Emotional, and Academic Intelligence, is a resource for conducting in-service workshops for all educators related to school-based prevention.

www.dundee.ac.uk/psychology/prosoc

This web site contains a variety of resources and reports from European and U.S. sources on social competence promotion. Of particular interest is an extensive, searchable bibliography.

www.psu.edu/dept/prevention

The web site of the Prevention Research Center at Pennsylvania State University contains a variety of technical reports and resources on relevant SEL topics.

www.smhp.psych.ucla.edu

This is the web site of the Center for Mental Health in Schools/School Mental Health Project. The Center provides consultation services and publishes a variety of useful information on school mental health issues.

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ENDNOTES

1. At this writing the Web site simply lists these programs and provides no reviews of their characteristics and effectiveness. However, CASEL is in the process of rating the programs, and that information will be available from the organization by late 2000. Many of the components and characteristics listed earlier at the beginning of the "Effective Strategies" section are among the aspects assessed in the SEL program review project. In addition to the ratings, the program review document will include summary tables with general information (e.g., grade levels addressed, curriculum content, instructor preparation required, program evaluation results, etc.) that also should facilitate comparisons among the programs. Moreover, at the time this chapter was being written, the Safe and Drug-Free Schools division of the Department of Education was evaluating programs in regard to "principles of effectiveness."

CHAPTER 3:
Promoting School Readiness

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READINESS AS A NATIONAL GOAL

"By the year 2000, all children in America will start school ready to learn." This goal, often referred to as the readiness goal, is Goal One of the National Education Goals, adopted by the President and 50 state Governors in 1990. As noted by Kagan, Moore, and Bredekamp (1995), Goal One has three objectives:

- ☐ All children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school;
- ☐ Every parent in the United States will be a child's first teacher and devote time each day helping his or her preschool child learn, and parents will have access to the training and support parents need; and
- ☐ Children will receive the nutrition, physical activity experiences, and health care needed to arrive at school with healthy minds and bodies, and to maintain the physical alertness necessary to be prepared to learn, and the number of low-birthweight babies will be significantly reduced through enhanced prenatal health systems (p. 1).

The readiness goal has sparked many programs—from one-week prekindergarten classes designed to familiarize children with school routines and activities to comprehensive preschool programs that provide a range of services to children and their families. Whereas few would argue with the need for school readiness, several critics have disagreed with the language and programmatic implications of Goal One. However, interpretation of this goal determines the types of prevention and intervention programs that are developed and funded.

Critics have argued that the wording of Goal One places an undue burden on the child, asking that the child be "ready" for school rather than demanding that the school be ready to serve the needs of each individual child. The National Association for the Education of Young Children (NAEYC, 1995) has adopted a position statement that clearly focuses on the uniqueness of individual learners, the developmental needs of 4- and 5-year-old children, and the ways in which schools should respond to those needs. These educators and others (e.g., Southern Early Childhood Association, 1993) would especially like policymakers to realize that all children are "ready to learn," and that this desire to learn and develop is innate at birth. Similarly, there is concern that Goal One ignores individual differences among children, by asking all children to fit an arbitrary mold called "readiness."

Goal One also has implications for special needs children and their families in that implementation of programs to achieve this goal may be at odds with current legal requirements to provide a free and appropriate public education to all children. If standards are set for children entering kindergarten (e.g., knowing the alphabet, using scissors), children with special needs may be discouraged from entering such classes (Farran & Shonkoff, 1994; May et al., 1994). Entry standards of any type other than chronological age are likely to discriminate against some children, reducing readiness to a gatekeeping concept that includes some children and excludes others (Willer & Bredekamp, 1990).

The concept of school readiness also has cultural implications. The use of specific readiness criteria frequently results in the use of majority-culture norms that ignore cultural diversity and the influences of culture on development (Swick, Brown, & Boutte, 1994). When normative definitions of competency are used to determine readiness, cultural factors may be seen as deficiencies (Barona & Santos De Barona, 2000). For instance, some families may believe that the early years in children's lives should be spent at home; in this case, preschool attendance would be at odds with the family's values. Other families may emphasize skills and knowledge other than those taught in traditional preschools and kindergartens (e.g., religious training, family loyalty). In reality, such differences should be respected, and it is important that schools recognize the various cultural and individual differences among children.

These criticisms and others have resulted in recommendations for changes in Goal One. For example, participants at a 1992 conference, *School Readiness: Scientific Perspectives*, agreed that the term readiness should be replaced by the phrase "continued readiness to learn," which recognizes that learning is inherent in all children and that policies derived from Goal One should focus on enhancing that readiness. Participants also agreed that the joint participation of schools, families, and communities is necessary to the successful implementation of Goal One (Lamberty & Crnic, 1994).

ISSUES IN SCHOOL READINESS

The Readiness Debate: What Defines Readiness?

The readiness debate centers on theoretical issues, as beliefs about how children develop influence policymakers to create and fund programs designed to prepare children for formal schooling. This debate regarding how children become ready for school is not new; in fact, there has been a long-standing controversy regarding how readiness should be defined and what factors determine whether a child is "ready" to learn (see Gredler, 1992, for a full discussion of these issues). Roughly speaking, the debate has reflected three perspectives: biological, skill development, and multidimensional.

The Biological Perspective—Proponents of a biological maturity perspective toward readiness have argued that certain developmental milestones should be attained before school entry. One strong proponent of this biological view of maturation and readiness is the Gesell Institute of Human Development. Ilg, Ames, Haines, and Gillespie (1978) argued that developmental age is the critical factor in determining a child's school success and that children should be held out of school—or given the "gift of time"—if they are deemed developmentally immature. Ames (1982) proposed that

> Much school failure could be cured or even prevented if all children were started in school, and subsequently promoted, on the basis of their behavior age [i.e., developmental age measured by behavioral standards] rather than their age in years, their intellectual level or their reading ability (p. 64).

Schools have adopted a number of educational practices based on this philosophy: prekindergarten programs, K-1 transition rooms, pre-first-grade programs, and organized delay of school entry. Many of these programs have not proven successful. May and Welch (1984) studied the academic achievement of children who delayed school entry versus those who were "overplaced" by Gesell standards (i.e., advanced by parents, though the children had been deemed "not ready"). The children who delayed school entry were more frequently referred for special services than those who did not adhere to the recommendations for retention or delay. In an interesting review, Shepard and Smith (1986) determined that *relative*, not absolute, age is the factor of interest in predicting school performance. In other words, the oldest children in the classroom were more academically advanced than the youngest children. This study implies that the difference between young and older children cannot be eliminated, even if every child's school entry is delayed.

The Skills Perspective—School readiness has also been based on the demonstration of specific learned skills or acquired knowledge. From this perspective, school readiness is best fostered by directly teaching children specific skills. In traditional kindergarten classrooms, the focus has been on teaching prereading, premath, and prewriting concepts. As a result, children who know the alphabet, count, and use scissors have an advantage over those who have not been taught such "readiness" skills. As stated by NAEYC (1995), though, this focus may not be developmentally appropriate and places the burden of readiness on the child and the family.

The Multidimensional Perspective: A Best Practice Approach—A more coherent approach to readiness is a multidimensional view, which accounts for the wide range of factors that affect children's success in school (see Table 1). The Goal One Technical Planning Group (Kagan, Moore, & Bredekamp, 1995) identified five dimensions that are essential components of readiness: physical well-being and motor development; social and emotional development; approaches to learning (styles or dispositions); language development; and cognition and general knowledge. The multidimensional focus recognizes that readiness is a complex concept, that children's development is nonlinear, and that the factors affecting readiness are interactive. The implication of this multidimensional view is that our focus must be on children, their families, their social context, and the nature of the schools that serve them.

TABLE 1

A Multidimensional Perspective: Five Dimensions of Readiness Identified by the Technical Planning Group

Dimension	***Components Involved***
Physical well-being and motor development	❑ Prenatal health care ❑ Vaccinations ❑ Nutritional needs ❑ Children's health care
Social and emotional development	❑ Relationship with primary caregiver ❑ Teachers' perceptions of children's behavior (e.g., level of attention, work habits) ❑ Parental perceptions of children's competence
Approaches toward learning	❑ Children's attitudes ❑ Habits (including attention to task, classroom behaviors) ❑ Learning styles ❑ Environmental variables (including SES, gender, racial-ethnic background, culture of origin)
Language development	❑ Receptive skills ❑ Expressive skills ❑ Articulation ❑ Concept acquisition
Cognition and general knowledge	❑ Overall intellectual functioning *(g)* ❑ Specific abilities ❑ Other forms of intelligence (such as creativity, temperament)

Each of the five dimensions has been shown empirically to affect school performance. *Physical well-being and motor development* addresses a range of needs and social concerns—including prenatal health care, vaccinations, nutritional needs, and health care for young children. The early learning of preschool children is often embedded in physical activity (Williams & Abernathy, 2000), thus motor development is a critical aspect of readiness for school. From a narrower perspective, perceptual-motor abilities have long been shown to predict various measures of school success. For instance, one study (Solan, Mozlin, & Rumpf, 1985) found that three tests of perceptual abilities accounted for 54% of the variance in the children's performance on the *SRA Primary Mental Abilities Test* (Thurstone & Thurstone, 1974).

Children's social and emotional development, the second dimension, has also been shown to affect school performance. Obviously, a number of factors influence children's development in this area, including children's relationship with their primary caregivers, teachers' perceptions of children's behavior, and parental perceptions of children's competence, to name a few. Typical research in this area uses behavioral ratings to predict classroom functioning. In a review of screening variables, Tramontana, Hooper, and Selzer (1988) found that social-emotional factors were less predictive of school success than cognitive factors. However, they identified two significant social-emotional factors: level of attention and work-related skills in school. An interaction between children's academic performance and their social-emotional development has been demonstrated (e.g., Cooper & Farran, 1988). One limitation of this research, however, has been the lack of acceptable psychometric properties in the third-party rating scales available (Bracken, Keith, & Walker, 1994).

Approaches toward learning, the third dimension of readiness, consists of a variety of factors, including attitudes, habits, learning styles, as well as environmental variables. The use of the term *learning styles* is particularly interesting as it points to inborn predispositions or temperament in understanding or explaining individual differences: individual differences that require sensitivity to and awareness of children's uniqueness and individuality within and across culturally diverse groups.

Several environmental factors, such as socioeconomic status (SES), gender, racial-ethnic background, and culture of origin affect children's school performance (Tramontana, Hooper, & Selzer, 1988). The actual effect of each factor varies from child to child; further, these variables have an interactive relationship. Culture of origin is also an important variable, but one that must be interpreted cautiously. The degree of cultural identification varies from one family to another. Additionally, Hanson (1992) lists mitigating factors that will affect a person's level of cultural identification: SES; length of residence in the United States (or a particular region in the U.S.); age; gender; amount and type of education; number and type of resources or family support systems; and, if applicable, reason for immigration.

Language development, the fourth dimension, has been clearly linked to academic performance. In their review of the research, Tramontana et al. (1988) found that language measures are often the best predictors of achievement, particularly in reading. This dimension could include receptive abilities, expressive skills, and articulation. One approach to language development has focused on concept acquisition (e.g., Bracken, 1986a, 1998; see Table 2 for a list of important basic concepts). The importance of conceptual knowledge in school performance is evidenced by the high incidence of basic concepts in the directions of most preschool measures of intelligence (Bracken, 1986b; Flanagan, Alfonso, Kaminer & Rader, 1995; Kaufman, 1978). An understanding of basic concepts is also essential to behavioral compliance in a typical classroom setting. Such knowledge is assumed in instructions such as "put your backpack *under* your desk," or "put the book *on top* of the shelf." Children's lack of conceptual knowledge may be interpreted by teachers and staff as noncompliance or inattentiveness.

Cognition and general knowledge, the fifth dimension of readiness addressed by the Technical Planning Group is the one dimension most commonly identified with school achievement. Various measures of cognitive functioning have been used to assess children's readiness for school. Aspects measured include general cognitive abilities (or *g*), primary and specific cognitive abilities, as well as other forms of intelligence, such as creativity. Without exception, well conducted studies have shown a strong relationship between intellectual functioning and school achievement. Further, measures that are *g*-saturated have the strongest predictive value (Tramontana et al., 1988). Such links between intellectual ability

TABLE 2

Concepts Measured by the Bracken Basic Concept Scale—Revised

Concept Area	*Definition*	*Examples*
Colors	Primary colors & those identified as being basic color terms for all languages.	Black, purple, red
Letters	Upper- & lower-case letters.	A, b, e, X
Numbers/Counting	Recognition of single- & double-digit numbers & ability to assign a number to a set of objects.	Nine, two, 53
Sizes	Describe one-, two-, & three dimensions.	Tall, thin, big
Comparisons	Match & differentiate objects based on one or more salient characteristics.	Different, exactly, match
Shapes	Basic one-, two-, & three-dimensional shapes.	Curve, triangle, cube
Direction/Position	Relational terms describing the placement of one object relative to another/itself/direction or placement.	High, top, behind
Self/Social Awareness	Concepts with emotional value or terms describing gender, kinships, relative ages, & social appropriateness.	Angry, father, female, old
Texture/Material	Salient characteristics or attributes of an object or basic composition of an object.	Heavy, hot, wood, metal
Quantity	Terms describing a relative degree of existence.	A lot, full, empty
Time/Sequence	Occurrences along a temporal or sequential continuum; degree of speed with which those events occur along the continuum.	After, summer, slow

and school achievement are the source of many debates regarding the nature of schooling and curriculum. Whatever theoretical position one takes, it is clear that all school programs, including those designed to promote readiness, are driven by assumptions about children's intelligence and how they learn.

These five dimensions of readiness are interdependent and woven together. Although programs may be designed to focus on one aspect or another of these dimensions, any effort to intervene in one area will influence the other dimensions. Therefore, a best practices approach to developing readiness assumes a multidimensional and ecological perspective, one that recognizes the reality that intervention in one dimension affects the entire system (Garbarino, 1990).

Client-Centered vs. "Maturity Centered" Practices

To promote readiness and prevent failure, a multidimensional and ecological theoretical model that recognizes the interplay among risk factors should shape prevention and intervention strategies and programs. Many early childhood educators and advocates thus argue that schools must be ready for children, and that the needs of young children, developmental and otherwise, should drive kindergarten programs, not the reverse (Meisels, 1995). Rather than setting standards for individual children (e.g., being able to count to 10 or recognize basic colors), schools should assess the needs of the children within their community and design programs that serve the needs of both the children and their families. From this perspective, then, schools should be client centered. A client-centered approach to learning would ensure a free and appropriate public education to all students, regardless of developmental status.

Proponents of the biological maturity perspective, the Gesellian point of view, disagree with the client-centered approach, as they have long argued that all children will become ready for school—as traditionally defined—if given enough time to develop. This view is comforting as it virtually promises success for all; however, the position is not realistic as it is not appropriate to simply wait for children to succeed in the absence of intervention.

Unfortunately, the Gesellian perspective has become fairly pervasive in acceptance among teachers. In a qualitative study, Smith (1989) found that teachers were more likely to retain kindergarten children based on their developmental perspective (i.e., those with a biological maturation view tended to retain the youngest children). May and Kundert (1997) found that, despite empirical evidence to the contrary, many teachers believed that children who had been retained in kindergarten for developmental reasons were more successful than those who were not retained. Similarly, Shepard and Smith (1989) found that the kindergarten teachers in their study were more likely to retain the relatively younger children in their classrooms, even when other factors, such as level of measured achievement, were equal. In fact, Lichtenstein (1990) found that teachers "tend to perceive young children as 'unready' in direct proportion to the amount of Gesell training they have received." (p. 371) However, in a study comparing the efficacy of the *Gesell Developmental Exam* (GDE; Ilg et al., 1978) and the *Bracken Basic Concept Scale* (BBCS; Bracken, 1984), Sterner and McCallum (1988) found that the BBCS accounted for the greatest amount of variance on achievement measures. The GDE, in contrast, accounted for an insignificant portion of the variance, indicating that the BBCS was likely to be a better predictor of school performance than the GDE.

Many parents, as well as teachers, have adopted this Gesellian perspective and currently engage in the practice of "academic redshirting," holding age-ready children out of school to give them the opportunity to mature (Gredler, 1992). In a 12-year study, Brent, May, and Kundert (1996) found that the incidence of delayed school entry continued to rise over the 12-year period. Many parents have adopted a perspective that equates age at school entry with a high probability of school success. This practice of holding children out of school affects not only the individual child, but also the other children in the class and the entire educational setting. In some classrooms, children may differ in age by as much as two years (May et al., 1994), which can create considerable developmental and behavioral disparity that teachers must address. Practices such as delayed school entry and retention clearly demonstrate the effect of developmental theory on educational practice. In order to change these practices, a sound theoretical and developmental perspective—one that is empirically based and that addresses the needs of the child in the broader contexts of family and community—is essential.

"Ready for What?"

Critical to any programmatic efforts to promote readiness is the issue of defining "school success." To date, a range of factors has been used to identify the extent to which children are successful in school, including failure in grade, referral for special services, performance on achievement measures (especially reading), and teacher or parent ratings of behavior. Graue (1992) took a different approach to readiness when she asked, "Ready for what?" She examined the ideas and opinions of teachers in three communities to determine what factors they deemed important to children's success in kindergarten. Graue concluded that readiness is a socially defined construct that varies from one community to another, depending on a variety of factors, including socioeconomic status. Further differences in perceptions of readiness have been found among parents, and preschool and kindergarten teachers regarding the skills that children need to be considered ready for kindergarten entry (Hains, Fowler, Schwartz, Kottwitz, & Rosekoetter, 1989; Knudsen-Lindauer & Harris, 1989). For instance, on a rank-ordered scale, preschool teachers and their kindergarten counterparts differed on the skills they believed to be most important to kindergarten performance (Hains et al., 1989).

Because of differences among early childhood teachers in their emphasis and approach to young children, policymakers should address several questions prior to early childhood program planning, including:

- What is expected of our students?
- How is success measured?
- How does our curriculum reflect our understanding of children's development?

Currently, most states offer kindergarten programs, although these programs are not always mandatory. The curricula across kindergarten classrooms vary widely, even within schools. The curriculum focus has generally alternated between traditional academic programming (i.e., reading, math, writing) and a more developmental, less structured approach that encourages social and emotional development in addition to cognitive development (Shonkoff & Meisels, 1990).

In the professional literature, there has been a longstanding effort to promote "developmentally appropriate" educational and assessment practices. Such practices are child-centered, recognize the uniqueness of each child, provide an open, discovery-based approach to learning, provide an integrated curriculum, and each skills in their natural context (e.g., counting is practiced as necessary component of preparing the correct number of snacks;

Walmsley & Walmsley, 1996). The National Association for the Education of Young Children adopted the developmentally appropriate approach in the 1980s and has advocated for it since that time. Although many school programs proclaim adherence to developmentally appropriate practices, many classrooms have not wholly adopted this model.

For example, in an observational study of 119 early childhood programs, researchers found that some expected, developmentally appropriate activities (e.g., natural world exploration, looking at books) occurred rarely or not at all in many classrooms (U.S. Department of Education, 1996). Moreover, many kindergarten classrooms are subject to mandated curricular and academic standards that must be attained before a child is allowed to progress to first grade. Such standards, though admirable in their effort to ensure educational accountability, have adversely affected instructional practices at the classroom level by encouraging teachers to address the same skills with each child, regardless of the developmental appropriateness for individual students.

Identifying Children "At-Risk"

Even when kindergarten classrooms are steeped in developmentally appropriate practices, there are additional factors that still place some children "at-risk" for failure. In a study that examined the relationship among social factors, developmental characteristics of the child, and academic achievement, the following variables were found to be significantly related to school success or failure (Fowler & Cross, 1986):

- Maternal education;
- Family history of learning problems;
- Physician rating of a child's attention span for academic activities;
- Performance on cognitive and visual-motor developmental tasks.

These factors are generally representative of the factors schools use to identify children as at-risk for developmental delays and other types of learning difficulties. It is also clear that children of teenage parents or whose mothers are in poor health are at greater risk for educational difficulties than children who are not facing such issues. Overall, low SES, with all of its implications and consequences, appears to be a primary factor for placing children at risk for academic difficulties (Garbarino, 1990).

Several causal models have been developed to identify at-risk children. Some of these models have searched for single but important variables that affect children's development (e.g., social-emotional functioning, maternal education level). The most successful models, however, are those that are interactive and take the child's environmental context into account (Garbarino, 1990). Studies have also shown that the number, rather than type of risk factors children experience is a better predictor of children's learning problems (Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987). In other words, children with multiple risk factors are more likely to fail, regardless of which of the independent risk factors they experience.

A variety of assessment practices and approaches have been employed to identify children at-risk for failure. The use of screening measures prior to kindergarten entry is widespread, although it is difficult to determine exactly how many states mandate such screening. One survey found that 43 states mandate some form of prekindergarten assessment (Shepard, 1997). Thurlow (1992) points out that screening practices vary from state to state and within states. Preschool screening practices have become controversial, often due to their outcome rather than intention. Thurlow identified several controversial issues in the screening process:

- ❑ Who will be screened? (Age and background of the child will clearly affect assessment results.)
- ❑ Who will be identified—children with disabilities or others who are at risk for academic difficulties?
- ❑ What are the characteristics of the families who elect not to participate? (For instance, if limited-English-proficiency families choose not to participate, that will affect the outcome of screening.)
- ❑ Who will conduct the screening? (One should consider the need to investigate the screener's training, involvement with the child, and cultural differences.)
- ❑ Where and when will the screening occur?
- ❑ What are the possible outcomes of the screening? (This will include such issues as referral rates, labeling, and services available.)

The technical qualities of preschool screening instruments must also be considered. Many instruments, such as those designed to measure language and articulation skills (Bracken & Rhyner, 1991) or third-party behavioral rating scales (Bracken, Keith, & Walker, 1994) have been found to meet appropriate psychometric criteria (for a detailed discussion of limitations and technical standards, see Bracken, 1987). As long as states mandate screening, the practice will continue. School psychologists should familiarize themselves with their district's current practices, consult with policymakers and school staff regarding best practices, and provide training for those who will administer and interpret the results of screening measures (for specific information on assessment practices and instruments, see Bracken, 2000; Gredler, 1992).

PRACTICES IN PROMOTING SCHOOL READINESS

Early intervention practices have a fairly long history in this country. Though their success has been debated, there is general agreement that such programs intuitively provide benefits for children and for society as a whole. In an economic analysis of early childhood programs, Barnett and Escobar (1987) concluded that these programs have both short-term and long-term benefits for society, though these benefits vary widely from one program to another. There appears to be agreement that early intervention programs are cost effective, though policymakers and educators continue to debate which characteristics of these programs (e.g., student-teacher ratio, family services) are most beneficial and predictive of success for children. Farran (1990) has proposed a division of programs into two categories: those that target children whose environmental circumstances place them at risk for school failure, and those who are targeted because of inborn risk factors (e.g., biologically related disabilities). No single educational program has been found to guarantee academic achievement or eliminate all the risk factors for academic failure.

In a review of early intervention programs, Farran (1990) reported that intervention programs are largely beneficial, though their efficacy varies from one program to another. There is considerable variance among programs in their theoretical orientations, target populations, and duration and comprehensiveness of related services. Whereas some programs strive to meet the needs of the whole child (e.g., Head Start), other programs have more narrowly defined goals that target specific issues or characteristics.

The proliferation of early childhood programs appears to be related to two interrelated variables: legal mandates and societal need. For students with identifiable disabilities (e.g., visual impairment), early intervention has been supported by federal law (Meisels, 1989). With the passage of Public Law 99-457, the federal government began offering incentives to states to identify and serve developmentally vulnerable or at-risk preschool children. From that law, Child Find and other early assessment and identification programs were developed to actively seek out young children with disabilities and to identify and meet their needs. Also, Head Start, which was initiated in the 1960s, represents an extensive effort on the part of the federal government to meet the educational needs of economically disadvantaged children.

In addition to the needs of economically disadvantaged children, circumstances such as maternal employment outside the home also have created a need for daycare and preschool programs for young children (Hernandez, 1995). Researchers point out that social conditions (e.g., single parenting, isolation of the nuclear family from kinship groups) also have encouraged program development (Shonkoff & Meisels, 1990). In many cases, children attend childcare; often, these childcare programs have an educational component. Conversely, some educational preschools have full-day options to meet the needs of parents who are employed outside the home. In order to meet these individual and societal needs, psychoeducational strategies and practices have proliferated. As would be expected, some of these practices have proven more effective than others. An interdisciplinary, coordinated approach to services has proven most valuable in serving children and families for the purpose of promoting readiness.

EFFECTIVE STRATEGIES

Interdisciplinary, Coordinated Services

Many of the early intervention strategies developed throughout the second half of the 20th century have one component in common—an interdisciplinary, coordinated approach to meeting the needs of the "whole" child. Such an approach is especially critical in meeting the needs of children with disabilities. In the past, service providers frequently failed to coordinate their services, which resulted in frustration for parents who may have received conflicting advice from different providers or waited months for appointments, only to have services duplicated. As a result, the current standard for best practices is service coordination. Service plans are developed to meet the needs of the whole family, not just the child with a disability. A case manager is assigned to coordinate and oversee these services. Programs for disadvantaged children have applied similar strategies to children whose external conditions (e.g., living below the poverty level) place them at risk for educational failure.

If agencies are to collaborate effectively with each other to deliver services, several service provision issues must be addressed. These issues include funding mandates, negotiating equity among agencies, and colocation of services. Funding issues may be of primary concern to some agencies whose programs are not fully funded or others that lack needed resources (e.g., clerical support, office equipment). In some instances, agencies have different requirements for how their funds are spent. Before any collaborative effort can begin, agency staff members will need to negotiate agreements and determine how conflicts will be resolved (Lopez & Hochberg, 1993). Good communication is essential before and during formal collaboration to provide effective services to clients.

School psychologists are in a unique position to play a role in service coordination and provision of services to clients. Some possible roles for the psychologist include: coordination among service agencies; organizing collaborative efforts between agencies and between agencies and schools; conducting program needs assessment; and performing program evaluation. There are also many other strategies that school psychologists may employ to promote school readiness.

The next section will address some of the strategies that school psychologists may find useful. For the purposes of the following section, strategies to promote readiness will be divided into three types: family focused, child focused, and school focused (see Table 3). It is important to realize, however, that these distinctions are artificial. Often strategies included in one section could have been included under another rubric. Also, each of these strategies can be implemented in isolation or as part of a more comprehensive program of services. Psychologists will have to decide which strategies are applicable to their unique situation, considering such factors as funding, personnel, community needs, and theoretical orientation of district personnel, to name a few.

TABLE 3

The Role of School Psychologists in Implementing Family-, Child-, and School-Focused Strategies

☐ Assess the community–cultural composition; perceived needs of parents; factors that place children at risk for school failure.

☐ Provide parents with short-informational programs that will address school readiness issues and help prepare parents for their children's entrance into school.

☐ Organize and participate in programs to teach parents specific skills that are important to children's readiness for school (e.g., creating a literacy-rich environment; teaching basic concepts; nutritional and health needs).

☐ Provide parents with written information regarding parenting skills, how schools function, and children's development; all such literature should be available in parents' first language.

☐ Make home visits to parents–to provide direct services or to consult with them regarding referrals.

☐ Train other staff members to be home visitors (e.g., interviewing strategies, active listening, behavioral intervention skills).

☐ Develop and encourage cross-cultural competence.

☐ When serving parents, provide flexible, family-friendly arrangements.

☐ Consult with school administrators and other personnel to adopt approaches that empower parents.

Child Focused

☐ Screen and assess children who may be at risk for school failure.

☐ Provide counseling and other direct services to children (e.g., behavioral interventions).

☐ Consult with preschool teachers or other service providers.

☐ Develop behavioral management plans for classrooms or groups.

☐ Work to ensure that programs for children are developmentally appropriate.

☐ Screen children for referrals for services (within or outside the district).

☐ Provide strategies for behavioral management and work directly with children to address problem behaviors.

Table 3 continued on p. 118

TABLE 3
The Role of School Psychologists in Implementing Family-, Child-, and School-Focused Strategies (*continued*)

School Focused

- ☐ Work with school administrators and teachers to create schools that are ready for children.
- ☐ Conduct a community needs assessment and share those results with policymakers and school personnel.
- ☐ Participate in the development of home-school handbooks (topics might include an introduction of school policies, suggestions for helping children with their homework, and introduction of faculty and staff).
- ☐ Conduct parent training groups or sessions at the school.
- ☐ Conduct in-service programs for school personnel.
- ☐ Meet with parents of students who have been referred for services or assessment to discuss areas of concern, and present options for services.
- ☐ As in other areas, provide direct services to children and their families.
- ☐ Consult with policymakers and school administrators regarding program development and implementation.
- ☐ Participate in curriculum choice/development for preschool and other school programs.
- ☐ Consult with teachers regarding developmentally appropriate practices, behavioral management issues, and the progress of children referred for services.
- ☐ Conduct program evaluation to determine how well programs are functioning.
- ☐ Participate in the training of paraprofessionals.
- ☐ Develop and serve in transition programs for children beginning kindergarten or first grade.

Family-Focused Strategies

Family-focused strategies (see Table 3) do not represent a single construct or approach; rather, they may best be understood as differing points on a continuum of services. Simeonsson and Bailey (1990) developed a useful framework for understanding the range of services available to families, as well as the role of families and interventionists at differing points along the continuum. At one end, the family may elect to refuse services (labeled "elective noninvolvement") and the interventionist's role is simply to provide information and offer options to the family. At the other extreme, families can be very involved with service providers, and the interventionist would work with families to resolve various psychological or existential issues. At this level, the targeted child is typically receiving comprehensive services.

Programs aimed at caregivers address many topics, including parenting strategies and child development, and they also typically present "how to" classes on dealing with homework or other "hot" issues for parents. Additionally, some programs are designed to teach parents how to play with their children in ways that stimulate the children's cognitive development. Literacy programs also have been developed to educate and encourage parents to create a literacy-rich home environment in which books are accessible and read by children and adults. Professionals who must plan such programs for parents can obtain brochures and pamphlets from many government and foundation sources. For example, the U.S. Department of Education (Paulu, 1993) publishes a brochure titled "Helping Your Child Get Ready for School." This brochure provides a definition for school readiness, explains the developmental stages through which children progress, and suggests guidelines for choosing quality childcare.

One popular strategy to address the needs of children and families involves home visits by professional or paraprofessional staff members. During these home visits, staff members introduce and resolve child behavioral and developmental issues, often by modeling specific techniques for instruction or discipline with children. Other home visitor programs provide parents access to social services, and the home visitor typically is a social worker. The schedule for and services provided in home visits vary considerably, depending on specific program goals and design. Some home visitor programs are part of larger programs that provide comprehensive services. In such instances, home visits are frequently designed to improve home-school relations and help parents access social services. In other cases, children and parents are taught specific techniques and skills (e.g., sign language for hearing-impaired children). In a review of home visiting programs, Weiss (1993) found that home visits were a "necessary, but not sufficient" component of successful intervention efforts with young children.

A variety of factors affect the success of such efforts with families. Just as educators' views of parents vary greatly, so do parents' ideas about schooling and school personnel. Parents who have had a history of school failure, for instance, may be unwilling to challenge teachers or may be hostile toward teachers. Other factors, such as cultural differences, may also affect the success of family-focused interventions.

Cultural differences are certain to affect how parents of racial-ethnic minority groups respond to the school environment. In 1998, 65% of children (defined as those under the age of 18) were White and not of Hispanic origin. The other 35% of children were from minority cultures: 15% African-American, not Hispanic; 15% Hispanic; 4% Asian/Pacific Islander; and 1% American Indian/Alaskan Native (U.S. Bureau of the Census, 1999). By 2020, the Census Bureau predicts that more than one in four children will be of Hispanic origin. They also predict that the number of White, non-Hispanic children will decline to 55% of the population.

As with other issues, a school system's sensitivity and responsiveness to families' cultural differences can be viewed on a continuum—from minimal efforts, such as celebrating a few holidays, to widespread efforts to serve and involve parents whose language and/or culture differ from those of the majority population. Based on these statistics, it is clear that school psychologists will need to develop "cross-cultural" competencies to serve the needs of this changing population. According to Green (as cited in Lynch and Hanson, 1992), cross-cultural competence includes the following:

- ☐ An awareness of one's own cultural limitations;
- ☐ Openness, appreciation and respect for cultural differences;
- ☐ The ability to use cultural resources in interventions; and
- ☐ An acknowledgement of the integrity and value of all cultures (p. 356).

(For an excellent discussion on these and related issues, see Barona & Santos De Barona, 2000).

In situations where families may be reluctant to become fully involved in children's schools, professionals should work to reduce barriers between schools and families. Washington, Johnson, and McCracken (1995) highlighted the importance of providing flexible arrangements that are "family friendly" (e.g., night appointments; asking a support person to introduce the professional to the family; scheduling initial visits in a location that the family is accustomed to). In communities with a significant bilingual population, it is important to have staff members who are also bilingual; additionally, school newsletters, notes to parents, and other printed materials should be written in the parents' first language.

The philosophy underlying efforts to involve families in children's education is twofold: children's school performance is affected by their families' social-emotional functioning; and, parents should become advocates and decision-makers for their children. Based on this philosophy, Head Start and similar educational programs strive to involve parents in their children's education. Focus on parental involvement and control sometimes has unexpected outcomes. For instance, when given a choice, parents may refuse offered services, rejecting the recommendations made by professionals. Such decisions can be difficult to accept, especially if staff members feel torn between their philosophical adherence to family empowerment and their professional concerns for the best interests of the child.

Because of this potential conflict between parental decision making and adopting professionals' recommendations, many programs have failed to adequately implement effective strategies to empower parents. Parents cannot be viewed simply as recipients of professional services; rather, they must be included at all levels of the decision-making process. Such an approach requires that staff be fully trained in ways to approach families and actively solicit their involvement. When done well, such programs have proven effective (Lopez & Hochberg, 1993). In some instances, however, parental involvement is solicited in name only and professional staff members continue to control programmatic and individual decision making (Mickelson & Klenz, 1998).

As with many important issues, parental empowerment is quite complex. For instance, one Head Start program struggled with the issue of parental control because parents tended to choose social gatherings over more "educational" activities that directly related to their children's development (Spatig, Parrot, Dillon, & Conrad, 1998). In this instance, staffers had to choose between process and content—not an easy choice to make.

The most logical approach to parental involvement or empowerment appears to be a developmental one. At the beginning of their involvement in a program, parents often require considerable guidance and support. As parents grow in their role as advocates, they typically function more independently and require less guidance from staff members. As Spatig et al. (1998) stated

> It seems to us there has to be some middle ground between imposing a top-down, condescending parent involvement program and taking a relatively laissez-faire approach based on the spontaneously expressed interests and needs of participants.... It seems to us that both alternatives... may serve to perpetuate the status quo; one just does it with greater enthusiasm and cooperation of the parents (p. 105).

Child-Focused Strategies

In addition to strategies for working effectively with families, many efforts to promote school readiness provide direct services to children (see Table 3). As with families, these services fall along a continuum from short-term, limited intervention efforts to comprehensive programs that address children's development across domains (e.g., language, physical). Short-term strategies are usually designed to facilitate entry into school by introducing children to the school environment and routines so the setting will be familiar to them when they enter kindergarten. Programs such as these may consist of a one- or two-week preschool class (often half-day) held in the spring or summer before school begins in the fall. The school's kindergarten teachers typically teach these classes, and attention is given to classroom routine and familiarity with the school building itself (e.g., cafeteria, gym).

Other readiness strategies with children are more intensive, such as remedial or preparatory preschool programs. There is considerable empirical evidence that preschool programs have positive outcomes for young children. In one review, Gomby, Lerner, Stevenson, Lewit, and Behrman (1995) found that child-focused programs often have a positive influence on children's cognitive development. Preschool experiences have generally been found to increase young children's general intellectual functioning, academic achievement, and attitude toward school. Though preschool programs have become more commonplace during the last couple of decades, there continues to be an insufficient number of programs, especially for children in lower-income families (National Task Force on School Readiness, 1991). In the 1991–92 academic year, four out of five states limited their prekindergarten programs to "at-risk" children (U.S. General Accounting Office, 1995). Various criteria (e.g., parental income, maternal education level) are used to select children for participation in these programs. (Note: More detailed information about preschool programs and their use appears in the next section).

School-Focused Strategies

In addition to targeting children and their families for intervention, many successful strategies are aimed at or conducted within schools (see Table 3). As previously discussed, schools should be ready to receive and serve children and their families—"readiness" is more aptly applied to schools than to individual children. According to Washington et al. (1995), schools that are ready for children do the following:

- ❑ Create a welcoming environment;
- ❑ Construct developmentally appropriate programs; and
- ❑ Ensure appropriate staff development.

This section on school strategies will address the following factors: parent involvement, choosing and implementing programs, preschool programs, choosing a curriculum, the use of paraprofessionals, and transition services. Effective programs must have clearly defined goals, meet the needs of the population they serve, and employ developmentally appropriate practices. The way in which a program is chosen, developed, and implemented will determine its potential for effectiveness.

Parent Involvement—Schools may use a variety of strategies to involve and influence parents. For instance, administrators, teachers, and/or parent volunteers may develop home-school handbooks. These handbooks could include the following subject or content areas: school policies regarding absences, the grading system; curriculum materials; school calendar; introduction of faculty and staff; and, general hints on homework or other home-school issues (Scales, 1996). Schools may also provide parents with orientation meetings, volunteer opportunities, classroom visitations, and monthly newsletters. To get teachers acquainted with children's families, schools may schedule annual home visitation periods, perhaps in lieu of a parent-teacher conference day (Weisz, 1996). If space allows, schools also may organize a Parent Resource Center (Lewis, 1996). Such centers could include a variety of educational and parenting resources and might be staffed by volunteers or paid staff members. Schools with large bilingual populations may wish to hire a bilingual community liaison to run the Resource Center. Under the best circumstances, a Resource Center will become a place for parents to meet, share information, and provide support for the school's programs.

Choosing and Implementing Programs—Several of the findings of a study designed to determine the factors common to effective Title I/Chapter I programs (Stringfield, 1997) are relevant to program design and/or implementation for preschool populations. The results of this study found the following:

- Sites varied greatly from each other in levels of program implementation and thus in measured outcomes (i.e., programs with the same names, goals, and strategies looked different from one site to another, and thus, achieved different results);
- Programs with the greatest academic gains attended to issues of initial and long-term implementation and institutionalization of reforms;
- The most successful schools had administrators and faculty who had considered at least four different routes to reform prior to adopting a program;
- Successful strategies obtained multilevel commitments from district staff, building administrators, and faculty; and
- Programs concentrating resources early in students' careers were more successful than those that began intervention later (primary grade programs had greater success than those started later).

Conversely, patterns of failure that begin in the primary grades tend to become entrenched and are rarely broken (Belsky & MacKinnon, 1994). Whereas further research is needed in this area, clearly a strong argument can be made for concentrating resources on the youngest at-risk children.

School psychologists have the training and skills necessary to effectively guide policymakers through the rocky waters of program development and implementation. When school administrators begin to contemplate programs for young children, school psychologists should become involved in the process. First, administrators should be aware of the multidimensional nature of preschool development and the factors that affect young children's later academic growth and school performance. Second, psychologists may guide administrators through the planning process. The process should include the following steps (see Table 4):

- ☐ Organize a planning group;
- ☐ Establish a theoretical orientation;
- ☐ Perform a needs assessment;
- ☐ Explore options;
- ☐ Make a choice;
- ☐ Implement the program; and
- ☐ Evaluate the program.

Providing Preschool Programs—Preschool programs should adhere to developmentally appropriate practices if they are to foster children's physical-motor, social-emotional, language, and cognitive development. Developmentally appropriate programs do the following (Bredekamp, 1997):

- ☐ Provide curriculum and routine that facilitate children's development;
- ☐ Assess children appropriately;
- ☐ Prepare environments that allow children to construct their own knowledge; and
- ☐ Offer experiential and relevant learning experiences.

Two components of preschool programs will be addressed here: choosing a curriculum and the use of paraprofessional staff members.

Choosing a Curriculum—Curriculum involves more than printed materials; it encompasses the classroom environment and goals for children, both formal and informal. One excellent example of a developmentally appropriate curriculum is High/Scope. This comprehensive curriculum, which was developed through the Perry Preschool Project in Ypsilanti, Michigan, stresses active learning and provides children with extensive hands-on experiences. Teachers using this curriculum are guides and facilitators rather than "givers" of knowledge. High/Scope is an intensive program that requires considerable teacher-child interaction (Inoway-Ronnie, 1998).

Some effective curricula programs focus on specific aspects of children's development (e.g., language, motor). Such programs are

TABLE 3

Steps to Effective Program Planning

Form a Planning Group

☐ Community leaders, school personnel, including administrators and teachers, concerned parents, and representatives of service agencies.

☐ Establish the group's purpose and set realistic, measurable goals.

Develop a Theoretical Foundation

☐ Definition of readiness.

☐ Roles of communities, families, and children.

☐ Value cultural diversity.

Conduct a Needs Assessment

☐ Gather quantitative information.

☐ Conduct focus groups to gather qualitative data.

☐ Identify all possible community needs.

Explore Options

☐ Explore possible funding sources and program options.

☐ Visit sites and gather materials.

Make a Choice

☐ Involve as many stakeholders as possible in the decision-making process to ensure a sense of ownership and investment in program development and implementation.

Program Implementation

☐ Fully prepare staff prior to implementation.

☐ Implement program in stages, as necessary to ensure full implementation and sound practices.

Program Evaluation

☐ Gather quantitative and qualitative data from participants, staff, and other sources to determine whether program goals and objectives are being met.

☐ Use this data as feedback to improve program quality and performance.

designed to increase specific skills or competencies, and their focus is often on remediating measurable skills that children lack. One such program, the *Bracken Concept Development Program* (BCDP; Bracken, 1986a) is designed to teach basic language concepts to children between the ages of 2 and 7. As was previously discussed, language skills are highly predictive of school achievement. By addressing concept acquisition, the BCDP provides children with skills that will enhance their classroom performance.

The BCDP can be used in tandem with the *Bracken Basic Concept Scale-Revised* (BBCS-R; Bracken, 1998), an individually administered measure of concept acquisition. In this situation, the BBCS-R is administered to determine whether children have acquired specific concepts (see Table 2). The BCDP is then used to teach those concepts in the classroom. It should also be noted that the BBCS-R has been shown to be a powerful predictor of kindergarten performance (Panter, 1998). The use of the BBCS-R, then, may have a dual purpose—to identify children who are at risk for school failure and to determine which concepts individual children need to learn as part of the BCDP.

Use of Paraprofessionals—Another important issue in planning preschool programs concerns the role of paraprofessional staff members. Paraprofessionals have played an important role in preschool programs for a number of years. Young children require considerable adult supervision, and teachers' aides and paraprofessionals have proven a cost-effective method of providing this supervision as well as assistance to teachers. Most preschool programs rely heavily on the use of paraprofessionals in the classroom. These individuals, often referred to as teachers' aides or assistants, provide adult supervision, assist with the housekeeping tasks (e.g., making bulletin boards, preparing snacks), and are usually responsible for some instructional activities. It is widely agreed that the quality and competence of such paraprofessionals has a direct effect on the success of preschool classrooms. It is well-documented that staff turnover is a problem for many preschool programs, and high turnover rates result in poor program continuity, disrupted relationships, and less than optimal use of instructional time. High staff turnover rates are due to a number of factors, including low pay and benefits, lack of professional recognition and treatment, negative relationships with professional staff members, and the lack of training (Leighton et al., 1997).

Policymakers and program developers must work to counter these factors and to improve the quality of services to children.

Efforts are in progress in some locations to provide high quality staff development for paraprofessionals as well as the professional staff members with whom they work. Successful training programs work with paraprofessionals and professionals in concert. For example, in the Calcasieu Parish in Louisiana (Leighton et al., 1997), teachers and paraprofessionals attend an annual state-level fall conference. After the fall conference, the school districts provide a series of workshops during the school year to follow up on the issues addressed at the conference. In these workshops, teachers and paraprofessionals work *together* to clarify their roles, responsibilities, and expectations of each other. Additionally, mutually acceptable job descriptions are developed so that these staff members are in agreement about their roles and can work together. These in-service programs have resulted in teacher and paraprofessional reports of improved classroom functioning and a more positive classroom environment (Leighton et al., 1997).

Transition Services—Professionals have also begun to recognize the need for transitional services for children who are leaving preschool programs to begin formal schooling (kindergarten or first grade). Formal schooling represents a critical transition from home to school, a time when the "experts" begin to exert more control than the family over the child's development. In school, children are formally evaluated (often in comparison to each other), are expected to demonstrate certain academic abilities in a timely fashion, and may experience formal judgments of failure. Children who attend preschool tend to have significantly better performance on these outcomes than their non-schooled peers (Enstwile, 1995). With this in mind, plans to transition children from preschool to the primary grades should be developed to sustain and maximize the benefits of early childhood programs.

MODEL PROGRAMS

Programs can be classified in a variety of ways: funding source, agency sponsorship, level of governmental support, or program type. In this section, three types of model programs will be examined: child focused, family focused, and, two-generational

(Gomby et al., 1995). It is important to realize that these categories are artificial. For example, programs aimed at children cannot be neatly classified as *child focused*, as they typically have one or more components designed to involve or influence families. This chapter focuses on programs with an explicit educational purpose. Programs whose primary goal is childcare will be omitted from this discussion, though many, if not most, of such programs have an educational component. Family-focused programs are those that target families and address parents as the primary clients. Finally, two-generational programs are those that address both children and their families.

Effective programs should include the following: a planning group consisting of as many stakeholders as possible; a sound theoretical foundation; needs assessment of the local community; specific target audience and goals; full program implementation; and thorough, ongoing evaluation procedures (see Table 4). Planners must determine their views of readiness, how children develop, what activities will best prepare children and families for school, and what services planners can provide.

Prior to implementation, all interested parties must be involved in program planning and adoption. Administrators and faculty, once they have chosen a program, should be invested in its success. For a program to succeed, staff members must be committed to long-term change and believe in the efficacy of any strategies they adopt. Further, programs must necessarily be implemented fully and not in name only. Highest quality services are essential to program success; mediocre or low quality programs have been found to be generally ineffective in changing children's school performance (Frede, 1995). After implementation, evaluation and feedback are critical to ensure that programs continue to grow and adapt to the needs of their clients and communities.

A Child-Focused Program: The High/Scope Perry Preschool Project

Programs aimed at children are typically preschool classes designed to enrich children's experiences and thereby enhance their abilities in several domains. Direct services to children have proven to be the most effective means of improving children's functioning. If planners must choose between serving children or adults, direct services to children are likely to have the most beneficial results (Barnett, 1995). A variety of outcome measures may be used to determine the extent of a program's effectiveness or success with children. Such measures typically examine cognitive, language, and social abilities; successful programs are those that improve children's functioning in one or more domains. Successful child-focused programs include the following components:

- ☐ A link to the local kindergarten curriculum;
- ☐ Developmentally appropriate educational practices;
- ☐ Certified personnel;
- ☐ Low teacher-student ratio;
- ☐ Ongoing staff development; and
- ☐ Transition services to formal schooling.

The High/Scope Perry Preschool Project (Weikart, 1967; Weikart & Schweinhart, 1991) is an extensively researched, high quality early education program. Longitudinal results from this project have demonstrated that disadvantaged children benefit from attending quality preschool programs. Positive outcomes were found for such distant variables as high school graduation rates, postsecondary education, and employment. Further, preschool students enrolled in the High/Scope project were less likely to be enrolled in special education classes, commit crimes, become teenage parents, or apply for welfare benefits.

One interesting piece of the High/Scope research compared three types of curricula: programmed learning, which followed a direct instruction model of teacher-initiated activities; a child-centered approach, where activities were based on children's expressions of their own interests; and, an open-framework approach, which included teacher-developed experiences and child-initiated content. All of these programs had similar staffing, training, supervision, and parent involvement. Research demonstrated that each of the curriculum types produced positive intellectual and academic outcomes, due most likely to the factors just listed. In later years, though, children who participated in the direct instruction model had poorer outcomes than children whose instruction was self-directed. Children in the direct instruction model were more likely to engage in delinquent behavior, have poorer family relationships and less participation in sports and other positive activities. In other words, children given the opportunity to express their own interests, and whose teachers were responsive to their interests, were more likely to exhibit positive adolescent behaviors than children whose instruction was primarily teacher directed.

Family-Focused Programs

Family-focused programs emphasize strategies aimed at improving the functioning and skills of parents. In these programs, services (e.g., job training, high school equivalency programs, access to welfare programs) are provided directly to parents. Underlying these efforts is the philosophy that improving caregivers' circumstances will result in positive outcomes in children's functioning (Powell, 1993). One common form of caregiver-focused programs is Home Visiting. Whereas there is a great deal of variance among home visitor programs, these programs also have some common components: intervention is offered in the home setting, a relationship is built between visitor and parent, and the goal is usually improved parent and/or child functioning along one or several dimensions (Powell, 1993).

Professionals who work with families often face similar obstacles: limited family participation, attrition, and family mobility. Home visitor programs are designed to prevent or address some of these issues. Because services are provided in the home, caregivers are not burdened with transportation or childcare issues (Baker, Piotrkowski, & Brooks-Gunn, 1999). Additionally, visiting professionals have the flexibility to address concerns that the parents believe to be most important. Further, there are "teachable moments," opportunities for the visitor to model positive parenting or address specific behaviors—from parents and children—that have an effect on children's development. Ideally, home visitors work with families to address specific family needs; each family should have an individualized service plan, and visits are aimed at needs and concerns identified by the family as most pressing.

One home visitor program, Parents as Teachers (PAT) will be briefly discussed here. PAT is based on two premises: babies are "born learners," and parents are their children's first teachers. The program is designed to serve children from birth through age 5. Research outcomes generally have been positive, though some results have been mixed (Wagner & Clayton, 1999). The program has four components (Winter, 1999):

- Home visits by trained personnel who provide information on the child's development, involve children in age-appropriate activities, and respond to parents' questions and concerns;
- Group meetings for parents;
- Monitoring of the child's progress by home visitors and parents; and
- Linking of family needs with community services.

Two-Generational Programs

Two-generational programs are those that serve both children and their families. Many of these programs are created to provide comprehensive support services to families, such as job training, social service referrals, or health and dental care. Ideally, programs of this sort should be customized to meet the specific needs of the families in the community served. Planners and other professionals responsible for implementing the program must carefully examine a community's unique needs before developing programs. Information about communities is available through census data, Head Start, local education agencies, schools, and health care providers (Washington et al., 1995). In a review of three model programs, Lopez and Hochberg (1993) identified the following components as essential to program success:

- ❑ Services responsive to family needs;
- ❑ Parenting skills taught in a manner that empowers parents;
- ❑ Emphasis on family empowerment; and
- ❑ Presentation of exciting, creative early education opportunities.

These essential features can be found in the many excellent programs across the nation (see the annotated bibliography for more information about these programs).

One successful two-generational program is Project CARE (Wasik, Ramey, Bryant, & Sparling, 1990). Project CARE has two components: a site-based educational daycare program for children and a family education program provided through home visits. Families are screened for specific risk factors, and those families that meet the program criteria are then randomly assigned to treatment groups.

Students in the educational daycare program include at-risk children as well as non-high-risk children, thus ensuring socioeconomic diversity. The program is developmentally appropriate and is aimed at both cognitive and social outcomes, with a special focus on language development. High standards are set for staff credentials, training, and program evaluation. There is a low staff-to-child ratio, ranging from 1:3 for infants to 1:6 for 3- to 5-year-olds.

Families enrolled in the family education program begin receiving home visits when their infants are 1 month old. Home visitors are instructed to be responsive to family needs, and they work to establish a positive relationship with families. Home visits provide a variety of services, including support for parents, referral to outside agencies, and the direct teaching and modeling of skills that foster children's cognitive and social development. Home visits are scheduled on a weekly basis until a child is 3 years old. After that time, visits are weekly or biweekly depending on the parents' needs and desires. Home visitors use the planned curriculum to demonstrate skills and describe childhood development for parents. Specific parent-child interactive skills are taught, and home visitors help parents identify objects with instructional/learning value in the home that can be used for curriculum activities.

The results of a Project CARE study show that educational daycare classes were successful in improving children's cognitive functioning and social skills (Wasik et al., 1990). The home visitor component, however, did not significantly improve parents' opinions, parenting actions, or the home environment. In contrast to prior research with similar programs, the home visiting aspect of this project was not an integral part of improving outcomes for children. As Wasik et al. (1990) pointed out, though, the Project CARE families were different from families in the other studies. Other studies have shown positive results when the mother was young, was having her first child, and when intervention began prior to birth (during the 7th month of pregnancy). Programs begun prior to a child's birth or when a mother is young or having her first child are more likely to change her parenting behaviors or attitudes than programs serving more mature parents, as did Project CARE. Also, Project CARE focused on specific educational outcomes. Such outcomes may be best influenced in a school (or daycare) setting, where highly trained staff members provide direct services to children on a daily basis. Further research will be helpful in determining the relationship among these factors, so that policymakers can choose the program components most likely to promote academic success for the children in their community.

SUMMARY

This chapter defined school readiness and discussed readiness as Goal One of the National Education Goals. Factors that are known to be predictive of school success include perceptual-motor skills, cognitive abilities, language skills, individual temperament or behavior, as well as environmental factors, such as maternal education, home environment, and SES. Readiness has been defined differently over time, depending on one's developmental perspective. Whereas some have taken a biological-maturationist approach (i.e., arguing that biology or nature is the primary factor in children's development), others argue that readiness develops along many paths, and that the developmental process is interactive. Consequently, readiness seems best defined from a multidimensional perspective, one that addresses all of the factors that affect children's overall development. Professionals who work with young children must recognize the interaction between children, families, schools, and communities when determining a child's readiness to enter kindergarten. Readiness is not simply a characteristic of the child, it also includes the characteristics of the social/educational environment. Readiness is a socially developed construct that is defined by communities and differs from one location to another.

Many strategies have been developed to promote children's readiness. Target audiences for these strategies include children, families, and school systems. With children, high quality preschool programs with a developmentally appropriate curriculum have proven effective in increasing their cognitive and academic abilities. Similarly, strategies that address families and children in tandem with each other also have had successful outcomes. Particularly successful are those strategies that are developmentally sound, theoretically based, and that address the specific needs of the families and children served.

There are presently many programs designed to promote school readiness. Because of limited space, only a few of these programs were discussed. Characteristics of effective programs include: a sound theoretical foundation; goals based on community needs; flexibility in program design and implementation; willingness on the part of program staff to grow and change; a formal evaluation and feedback component; developmentally appropriate curricula materials; an interdisciplinary focus on meeting the needs of the whole child (including family as team members); high quality staff; ongoing staff development/training; collaboration with other agencies or service providers; and, transition services to formal schooling.

RECOMMENDED RESOURCES

Books, Journal Issues, Chapters

Bracken, B. A. (Ed.). (2000). *The Psychoeducational Assessment of Preschool Children* (3rd ed.) Boston: Allyn & Bacon.

This work provides cutting-edge information for practitioners regarding the screening and in-depth assessment of preschool children. It takes a multidisciplinary approach, including motor development, intellectual functioning, concept acquisition, adaptive behavior, and informal assessment. It also includes an invaluable chapter on the assessment of multicultural children.

Ellsworth, J., & Ames, L. J. (Eds.). (1998). *Critical Perspectives on Head Start: Revisioning the Hope and Challenge*. Albany: State University of New York Press.

The contributors provide a qualitative look at Head Start programs from a different perspective than traditional outcomes-based research and offer good insights into several sites, their problems, and solutions.

Gredler, G. R. (1992). School Readiness: *Assessment and Educational Issues*. New York: Wiley.

An excellent summary of issues surrounding school readiness assessment and related issues is presented. Issues such as inappropriate practices, school entry age, and intervention practices are addressed.

Lopez, M. E., & Hochberg, M. R. (1993). *Paths to School Readiness*. Cambridge: Harvard Family Research Project.

The authors provide an overview of three model two-generational programs for early intervention. Each chapter contains "lessons for practitioners." They deal with nuts and bolts problems, such as collaboration and funding and give an excellent explanation of how programs grow and change from one stage to the next.

Lynch, E. W., & Hanson, M. J. (Eds.). (1992). *Developing Cross-Cultural Competence: A Guide for Working with Young Children and Their Families*. Baltimore: Paul H. Brookes.

This gives specific guidelines for developing cross-cultural competence, as well as provides specific information about various cultural groups. The contributors present the information in a thoughtful manner that is easy-to-read, though not oversimplified.

Meisels, S. J., & Shonkoff, J. P. (Eds.). (1990). *Handbook of Early Childhood Intervention*. Cambridge: Cambridge University Press.

The topic of current programs, including theoretical foundations, approaches to assessment, service models, research perspectives, and policy issues, is covered comprehensively.

RECOMMENDED RESOURCES

Moles, O. C. (Ed.). (1996). *Reaching All Families: Creating Family-Friendly Schools*. Washington, DC: U.S. Department of Education.

This free resource for psychologists, administrators and school staff provides specific strategies for connecting with families, including handbooks, parent resource centers, and parent-teacher conferences. It is an excellent source of information for organizing specific plans for family outreach efforts.

National Task Force on School Readiness. (1991). *Caring Communities: Supporting Young Children and Families*. Alexandria, VA: National Association of State Boards of Education.

This publication provides valuable information on the present status of school readiness efforts. The information is especially useful for sharing with administrators, school board members, and other policymakers. It provides "how-to" information, as well as snapshots of successful programs.

U.S. Department of Education. (1996). *Achieving the Goals: Goal 1. All Children in America Will Start School Ready to Learn*. Washington, DC: U.S. Government Printing Office.

This is an excellent resource for psychologists and other educational professionals. It lists all federal programs aimed at Goal 1, including contact information.

U.S. Department of Education. (1997). *Urban and Suburban/Rural Special Strategies for Educating Disadvantaged Children: Final Report*. Washington, DC: U.S. Department of Education.

This report provides detailed information about school programs, staff development, student outcome, and other relevant issues based on the project's longitudinal study of 25 Chapter I/Title I projects.

Walmsley, S. A., & Walmsley, B. B. (1996). *Kindergarten: Ready or Not?* Portsmouth, N.H.: Heinemann.

The authors provide a good resource for school psychologists to share with parents and other community members. They debunk several myths and explain educational terminology and practice.

Washington, V., Johnson, V., & McCracken, J. B. (1995). *Grassroots Success! Preparing Schools and Families for Each Other*. Washington, DC: National Association for the Education of Young Children.

This resource presents information on programs funded through the W.W. Kellogg Readiness Initiatives. It provides programmatic information, as well as encouragement for planners. The materials are colorful and easy-to-read; they could be shared with policymakers, community volunteers, or support groups. An excellent list of programs funded by the Kellogg Initiative is included, with information on how to contact programs for further information.

Web Sites

www.cyfernet.org

This Internet site (National Extension Service Children, Youth, and Family Research Network) provides a multitude of resources and links for professionals and families.

www.nncc.org

The National Network for Child Care Internet Site offers practical resources for community planning, staff development and standards for quality care. This is a good resource for those designing early childhood programs.

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CHAPTER 4:
Promoting Achievement Motivation

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> *Pat has been asked to complete a set of challenging problems in a mathematics classroom. He is concerned because he is not sure that he has the ability to successfully complete the problems. Pat begins to work but finds that he cannot solve the very first problem in the set. He looks around the room anxiously. All of the other children seem to be doing fine. At this point, he is worried that he will not get a good grade on the assignment. He stops working and puts his head down on his desk.*
>
> *Jennifer, in a different mathematics classroom, has also been asked to complete a set of challenging problems. She seems eager to begin, even though she knows that she will probably make a lot of mistakes at first. She tries the first few problems, but finds that she needs a different strategy. After consulting with her teacher, she quickly resumes her work, this time with greater success. She has learned that effort, persistence, and use of an effective strategy lead to success, and she enjoys the challenge of working on difficult math problems.*

A variety of factors may have contributed to these two very different classroom learning outcomes. Central among these factors are teaching practices that promote student classroom motivation. These teaching practices can be grouped into three categories: (a) those that affect students' perceptions of their ability and self-efficacy, (b) those that promote a mastery goal orientation, and (c) those that affect students' intrinsic motivation and task value (Gettinger & Stoiber, 1998).

In this chapter, we focus on such practices. First, we provide a brief overview of social cognitive theory, intrinsic motivation and self-determination theory, task value, attribution theory, and achievement goal theory—theories that explain how student motivation is related to the above teaching practices. Specifically, social cognitive theory and attribution theory both deal with students' perceptions of their ability and the reasons behind their successes or failures, while achievement goal theory relates to the types of goals students set for themselves (mastery versus performance goals). Finally, intrinsic motivation and task value deal with the reasons why students value academic tasks.

THEORETICAL PERSPECTIVES

Social Cognitive Theory

Although much of the early work of Bandura (1977) focused on the role of modeling in learning, his most recent work (Bandura, 1986, 1997) emphasized the critical role of social cognitive factors, especially motivation and self-regulation. Bandura suggests that motivation arises from the self-regulatory processes of self-observation, self-judgment, and self-reaction. For example, when Jennifer realized (self-observation) that she was having problems with the math problems (self-judgment), she sought help from the teacher (self-reaction). This strategy helped her overcome her difficulty and resume working on the problems.

These self-regulatory processes alone fail to explain why a student is motivated to accomplish a particular task. The concept of self-efficacy offers further explanation (Schunk, 2000). Self-efficacy refers to a personal belief about one's capability to accomplish a particular task. Self-efficacy is domain specific: students can have high self-efficacy in some areas, but lower self-efficacy in others (Pajares, 1996). Students are more likely to participate actively in domains in which they have high self-efficacy and show little effort and persistence in those in which they have low self-efficacy. Even in the face of difficulty, students tend to work longer and harder on activities and tasks for which they have high self-efficacy.

The four sources of self-efficacy are past experience, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1997). Past experience is the most important source of self-efficacy: prior academic successes generally raise self-efficacy and failures lower it. However, the timing of these successes and failures is also important. For example, failure during initial efforts with a task is more damaging to self-efficacy than failure following a string of successful efforts.

Vicarious experience, the second source of self-efficacy, usually involves students watching others successfully perform a given task and then convincing themselves that they can do the same. Verbal persuasion, the third source of self-efficacy, is also used frequently in classroom settings when teachers try to convince students that they have skills necessary to accomplish a particular task. Finally, the fourth source of self-efficacy is physiological arousal, such as when a student feels excitement to begin an academic task (increased self-efficacy) or anxiety (which may lead to decreased self-efficacy).

While high self-efficacy is important to motivation, it does not guarantee it. Motivation is a function of additional factors. One factor that has been the subject of substantial theory and research is whether the primary source of motivation is intrinsic or extrinsic.

Intrinsic Motivation and Self-Determination Theory

Intrinsic motivation refers to the desire to engage in activities for their own sake, without the necessity for an accompanying external reward (Deci, Vallerand, Pelletier & Ryan, 1991). It is the converse of extrinsic motivation, which is contingent on acquiring an external reward or avoiding punishment. Self-determination theory conceptualizes intrinsic and extrinsic motivation such that behaviors that begin as extrinsically motivated may gradually become more intrinsically motivated or "self-determined." For example, students who initially work hard in physics class for purely extrinsic reasons may, over time, realize that they have acquired a great deal of physics knowledge, and begin to value learning physics for its own sake, thus shifting from extrinsic to intrinsic motivation.

Recently, Dev (1998) conducted a review of the research on the intervention methods used to enhance academic intrinsic motivation and the measures used to assess academic intrinsic motivation in children with learning disabilities (LD). The results indicated that intrinsic motivation was strongly associated with academic achievement in students with LD, and that training students with LD to attribute academic outcomes to their own efforts might increase their academic intrinsic motivation.

According to Lepper and Hodell (1989), there are four primary characteristics of tasks that promote intrinsic motivation: challenge, curiosity, student control, and fantasy. The first three characteristics are commonly found among effective teachers. That is, effective teachers present instruction and curricula that challenge students and invoke their curiosity. Moreover, they encourage students to participate actively in important decisions pertaining to their learning. The use of fantasy to foster motivation is cited less often in the literature. In a recent empirical study, Cordova and Lepper (1996) found that elementary school children who participated in computer-based mathematics activities that were embedded in two fantasy contexts ("Space Quest" and "Treasure Hunt") showed greater motivation and learning than children for whom the activities were not fantasy based. Furthermore, Cordova and Lepper found that students who were given choices within the fantasy contexts showed greater motivation and learning than students who were not given choices.

Task Value

Wigfield and Eccles (1992) proposed an expectancy-value model in which expectancy for success is combined with task value to produce achievement behaviors. They defined expectancy for success as being influenced by self-concept of ability and perceived task difficulty. If a student has a strong self-concept of ability in a particular area, and if the task is perceived to be challenging (moderately difficult), then expectancy for success is predicted to be high. Furthermore, the authors argued that the value of the task should include both the characteristics of the task (such as task difficulty) as well as the needs, values, and goals of the person.

Wigfield and Eccles (1992) identified three types of task value. The first type is intrinsic task value, as discussed above. Another type of task value is attainment value, which reflects the importance that students attach to performing well at a particular task, based on their needs and self-perceptions. For example, the attainment value of performing well in an English course should be high for students who view themselves as good writers. A third type of task value, utility value, is based on students' perceptions about whether the information they are learning will be instrumental in reaching a goal. In addition to task value, the perceived "cost" of an activity is important to motivation. Cost is what is lost or sacrificed as a result of working on a particular task, such as giving up free time or leisure activities to study for a test.

Attribution Theory

Attribution theory emphasizes the causal explanations students make when they experience an unexpected, negative, or important event. Weiner (1994) categorized the perceived causes of success and failure according to three dimensions: locus of causality (internal vs. external), stability (stable vs. unstable) and controllability (controllable vs. uncontrollable). The locus of causality refers to whether the person attributes the cause of the outcome to something within himself/herself (internal) or something outside of himself/herself (external). Stability refers to whether the person attributes the cause of the outcome to something that will not change (stable) or something that is variable and can change over time (unstable). The third causal dimension, controllability, refers to whether people attribute the cause of the outcome to something that is within their control (controllable) or something they cannot control (uncontrollable).

With respect to achievement outcomes, there are four primary perceived causes of academic success and failure (ability, effort, task difficulty, and luck) (Weiner, 1994). The ability (aptitude) attribution tends to be seen by students as an internal, stable, uncontrollable attribution, whereas effort (immediate effort) tends to be seen as an internal, unstable, controllable attribution. When ability is perceived to be low, attributing failure to ability is often associated with learned helplessness because ability tends to be seen as stable and uncontrollable. Students with learned helplessness often state that they are failing in school because they are "not smart." This is particularly problematic because these students believe they lack the intellectual skills necessary to be successful in school. In contrast, students who attribute their failure to a lack of effort are likely to put more effort into the next task, which often leads to academic success.

Attributions of task difficulty and luck, which are external attributions, also have an effect on motivation and achievement. For example, a student who fails a test but discovers that nearly all of the other students in the class also failed is likely to conclude that poor performance was due to very high task difficulty. Similarly, a student who fails a test as a result of studying the wrong information is likely to attribute the failure to bad luck.

In a study that compared students with and without LD, Pintrich, Anderman, and Klobucar (1994) found no evidence of learned helplessness in students with LD. They also did not find any differences in the intrinsic motivation of students with and without LD. However, they did find that students with LD were more likely to attribute their successes and failures to external rather than internal causes. Pintrich et al. suggested that this finding may be due to the fact that the students with LD in this study spent a fair amount of time in a resource room, where they received a great deal of help (an external attribution) from the special education teacher.

Achievement Goal Theory

In an invited address on the history of motivation research, Weiner (1990) described achievement goal theory as a "major new direction, one pulling together different aspects of achievement research" (p. 629). Achievement goal theory emphasizes two different types of goals: mastery (learning) or task-focused goals, and performance or ego-focused goals (Anderman & Maehr, 1994; Dweck & Leggett, 1988). Students with mastery goals have "a belief that effort and outcome covary, and it is this attributional belief pattern that maintains achievement-directed behavior over time"(Ames, 1992, p. 262). In contrast, students with performance goals, tend to "focus on one's ability and self-worth... and ability is evidenced by doing better than others, by surpassing normative-based standards, or by achieving success with little effort" (Ames, 1992, p. 262).

As illustrated in the introduction to this chapter, when students, like Pat, have performance goals, they place more emphasis on the outcome of their learning, such as getting a good grade, or avoiding a bad grade in school (Dweck & Leggett, 1988). Learning is seen as a means to an end, rather than an end in itself. Dweck argued that performance goals often result in ineffective strategies. Moreover, because performance goals are often associated with ability attributions, these goals can lead to learned helplessness when they are not achieved. Conversely, when students such as Jennifer have mastery goals, they focus primarily on mastering the academic task, valuing learning for its own sake. These students tend to prefer challenging assignments that require more effort; and they tend to use better learning strategies while studying (Dweck & Leggett, 1988).

Achievement goal theory attempts to explain why students select one type of goal orientation over the other. According to Dweck and Leggett (1988), one factor may be that students select achievement goals based on their implicit theory of intelligence. There are two types of implicit theories of intelligence: entity and incremental. Students with an entity theory of intelligence tend to believe that their intelligence is fixed. With respect to attribution theory, the emphasis is on the internal, stable factor of ability (aptitude) (Weiner, 1994). Because this view of intelligence focuses on ability, students who hold this theory of intelligence are likely to be mastery-oriented only when they believe that they are already good at something. When they believe they are not good at something, they are likely to exhibit learned helplessness. The entity view of intelligence is associated with performance goals that either reinforce students' ability (by getting good grades) or protect students' ability from being evaluated negatively (by withdrawing from the task).

Conversely, students with an incremental theory of intelligence tend to believe that their intelligence will increase as they acquire new knowledge. With respect to attribution theory, the primary emphasis is on the unstable, internal factor of effort (temporary effort or strategy use) (Weiner, 1994). This view of intelligence is associated with mastery goals in which students seek challenging tasks from which they can learn. These students also understand that making mistakes is part of learning. Because the focus is on learning, students with mastery goals also tend to use better learning strategies than students with performance goals (Dweck & Leggett, 1988).

Urdan and Maehr (1995) recently challenged the view that there are only two types of achievement goals (mastery and performance goals). They argued that the study of achievement goals should also include social academic goals, which they define as the "perceived social purposes of academic achievement or failure" (p. 224). Specifically, social academic goals include social approval goals (achievement to gain approval from others), social solidarity goals (achievement to bring honor or recognition to the students' family), and social compliance goals (achievement to demonstrate that the student is a good person). Urdan and Maehr noted that these different types of social academic goals can be either positive or negative depending on the student's other academic goals. For example, if a student believes that it is important to do well in biology class to please his or her parents, the outcome is likely to be positive if the student sets a mastery goal and strives to do his or her best. However, the outcome is likely to be negative if it causes him or her anxiety and in turn leads to a performance goal.

There is some research indicating that a person may have both a mastery and performance orientation for the same goal (Hagen, 1994; Meece & Holt, 1993; Pintrich & Garcia, 1991; Schutz, in press; Wentzel, 1991). For example, in earning a degree one may have a mastery or performance orientation at different points throughout the learning process: in two different studies by Zimmerman and Kitsantas (1997, 1999) it was found that during skill learning, the best situation was when there was a change from process (mastery) goals used during the initial acquisition phase to outcome (performance) goals during the later performance stage. In other words, both orientations were useful at different stages of the learning process.

Recently, Middleton and Midgley (1997) argued that while motivation has traditionally been conceptualized in terms of approach and avoidance tendencies, "the goal to avoid a demonstration of lack of ability has not played a major role in studies using a goal theory framework" (p. 710). While several studies have indicated a positive relationship between performance-approach goals and self-efficacy, other studies have indicated a negative relationship. Middleton and Midgley attempted to clarify the conflicting findings regarding performance-approach versus performance-avoid goals. Their findings indicated that performance-avoid goals negatively predicted academic self-efficacy and positively predicted test anxiety and avoiding help seeking, while performance-approach goals did not significantly predict any of these outcomes. This study casts doubt on the practice of measuring performance goals only as "approach" tendencies and points to the need for more classroom-based research examining the role of performance-avoid goals.

Several studies have focused on how the structure of the classroom might influence students' motivation. The results from both laboratory and classroom studies suggest that it is possible to manipulate achievement goals (Ames, 1984; Ames & Archer, 1988; Elliott & Dweck, 1988; Graham & Golan, 1991; Hagen, 1994). For example, in a laboratory study, Elliott and Dweck (1988) found that when mastery goals were pointed out with clarity and emphasized (i.e., highlighted), children were more likely to seek challenging activities (i.e., pattern discrimination task) and approach these activities in a mastery-oriented way, regardless of their perceived ability. A different pattern emerged when performance goals were highlighted, especially for the children who had low perceived ability. These children exhibited the helpless pattern characterized by an avoidance of challenging tasks, increased negative affect, attribution for their mistakes to low ability, and generally giving up in the face of difficulty.

The findings of studies conducted in actual classrooms are generally consistent with findings from the laboratory studies. Specifically, students who perceive an emphasis on mastery goals use more effective learning strategies, seek more challenging tasks, and have more positive attitudes toward the class than students who perceive an emphasis on performance goals (e.g., Ames & Archer, 1988). For example, Bryson (1993) conducted a classroom-based study in which she manipulated goal value using a procedure adapted from Elliott and Dweck (1988). The children who participated in the study were placed in three different groups based on their actual achievement in school: high-achieving, low-achieving, and low-achieving with "persistent learning difficulties" (Bryson, 1993, p. 302). The results indicated that regardless of the achievement group in which students were placed, under the conditions in which a mastery goal was highlighted (versus a performance goal), children's verbalizations showed more evidence of deep-processing than surface-level cognitive strategies during a concept mapping task. While the use of deep-processing strategies did not eliminate achievement differences between the three groups, this study suggests that emphasizing mastery goals in the classroom may be beneficial to students at *all* ability levels.

GUIDELINES FOR EFFECTIVE STRATEGIES

The goal of this section is to provide some guidelines for the development of effective strategies for classroom motivation. As indicated, research and theory have shown that the way classroom activities are designed, monitored, and evaluated can influence students' effort, persistence, and performance in the classroom. Therefore, these guidelines will help provide teachers, school psychologists, and school administrators with ways to approach the development of activities that promote motivation in the classroom. The strategies described in this section are also summarized in Table 1.

Promoting Intrinsic Motivation in the Classroom

As indicated earlier, there are four primary characteristics of tasks that promote intrinsic motivation: challenge, curiosity, student control, and fantasy. Therefore, strategies developed should focus on tasks that promote one or more of those characteristics. For example:

- ❑ ***Provide an appropriate level of challenge for students.*** The goal should be to design tasks that are moderately challenging (Ames, 1992; American Psychological Association Board of Educational Affairs [APA], 1997; Lepper & Hodell, 1989; McCombs, 1998). One way to approach this is for teachers to operate *just above the skill range of the students*. This helps to ensure that the task is something the students can master, but not without effort and appropriate strategy use. Conversely, tasks that are repetitive or too easy (e.g., fill-in-the-blanks worksheets that do not require students to actively process the information), frequently lead to lower motivation.
- ❑ ***Use multiple tasks that have varying levels of difficulty.*** Most of the time classrooms are occupied with a diverse group of students with varying skill levels. Activities that all have the same level of difficulty will only be challenging to a subset of the students. This results in other members of the class being bored because the tasks are too easy—and another part who are frustrated, anxious, or inattentive because the tasks are too challenging. Thus, ideally there should be varying levels of difficulty within a task and multiple tasks with different levels of difficulty. This will help to maximize involvement by as many students as possible.
- ❑ ***Provide scaffolding that helps students match their skills to the difficulty level of the tasks*** (Alexander & Murphy, 1998). Challenging tasks require assistance or scaffolding by the teacher in order for students to be successful. Vygotsky (1934/1986) described the zone of proximal development, which is the period in which a child has the capacity to learn a new concept or task, but needs a great deal of assistance (scaffolding) from a more capable person. As the child

acquires the skills necessary to master the challenging task, scaffolding is gradually removed until it is no longer needed.

- ☐ ***Create curiosity by using activities that create discrepancies with the students' present level of knowledge or that questions their beliefs or expectations.*** Curiosity tends to emerge in situations where something unexpected occurs (Berlyne, 1960, 1963; Lepper & Hodell, 1989; Pintrich & Schunk, 1998). These are activities that create disequalibrium for students, and that can result in need-based involvement to reduce the inconsistency.
- ☐ ***Design tasks for novelty, variety, and situational interest*** (Ames, 1992, APA, 1997; Krapp, Hidi, & Renninger, 1992; Schiefele, Krapp, & Winteler, 1992). The challenge for teachers is to constantly change the nature of the tasks they give their students, so that students are engaged in a variety of interesting tasks.
- ☐ ***Involve students in make-believe, yet authentic, activities, games and/or simulations*** (Brophy, 1998). Game-like characteristics should be included in learning activities, such as hidden information, challenges, obstacles to overcome, and problems to solve. Make-believe and simulation that involve mystery or suspense can create a motivational level of involvement. An excellent example is cooperative learning tasks such as the Teams-Games-Tournament (TGT) (Slavin, 1990). However, whereas such activities can enhance motivation, it is important that the characteristics of the tasks do not detract from the intended learning. Thus, authentic tasks with a clear focus on the intended outcome can help to make the distinction between being a fun activity with actual learning and simply having fun.
- ☐ ***Allow students to make meaningful choices about rules, procedures, and learning opportunities in the classroom*** (APA, 1997; Lepper & Hodell, 1989; McCombs, 1998). For example, involve students in setting the classroom rules. This helps students to feel a sense of responsibility and ownership in the climate of the classroom, reducing classroom management problems and fostering social and moral development. Students have been shown to be more intrinsically motivated when they are given "real" choices in the classroom such as selecting books to read or topics to research (Ames, 1992).

Promoting Task Value in the Classroom

One of the common complaints of students is that classroom activities tend not to be relevant to their lives. The following are some ways that may help students develop interest and value for classroom activities:

- ***Relate classroom activities to the goals and personal interests of the students*** (Alexander & Murphy, 1998; Ames, 1992; APA, 1997; McCombs, 1998). Activities should be structured in such a way that students understand why they need to learn the material. That is, they should know how the activity or information being studied relates to their goals (Wigfield & Eccles, 1992). The use of authentic problems that reflect students' goals and interests tend to increase the utility value of those tasks.
- ***Provide opportunities for students to develop connections between their prior knowledge and the content of the course.*** Learning involves the development of connections within the material to be learned and the prior knowledge of the students (Alexander & Murphy, 1998; APA, 1997; Wittrock, 1998). The process of generating connections between the new to-be- learned information and one's prior knowledge helps students to develop personal meaning from the new information, thus increasing the value of the task.
- ***Relate the activities to the objectives of the course*** (Brophy, 1998). In addition to showing a relationship between the activities and the students' goals and interests, it is important to show how the activities match the objectives or goals of the class. If teachers help students understand the overall goals of the course and how those goals are consistent with their own goals and interests, students may better understand and appreciate the importance and usefulness of a particular activity.

Promoting Self-Efficacy and Attributions to Effort and Strategy Use

One of the most consistent and robust findings in the area of motivation is the importance of self-efficacy to performance (Schunk, 2000). In addition, one of the factors that influences the development of self-efficacy involves attributing successes and failures to effort and strategies. The following are some ways to promote self-efficacy and attributions to effort and strategy use:

- ***Match the skill level of the students with the choices you provide.*** Part of the goal of providing students with the opportunity to make choices is to help them develop feelings of control and self-efficacy about themselves as students and learners. If the choices provided are too difficult or beyond their skill level, frustration and task withdrawal are likely. If the choices are too easy or meaningless, boredom is likely. In either case, motivation and achievement will be lacking and behavior problems are likely to emerge.
- ***Recognize effort, persistence, and improvement*** (Ames, 1992). Recall that effort is generally seen as an internal, unstable, controllable attribution (Weiner, 1994). Thus, students can decide how much effort to expend on a task. Teachers should emphasize effort and the application of learning strategies as the reasons for academic successes and failures (APA, 1997; McCombs, 1998). In addition, emphasizing how each student has improved over time, rather than comparing a student's performance to the performance of other students, is likely to increase the students' self-efficacy for learning (Schunk, 1991).
- ***Ask students about their attributions for success and failure.*** In order to understand how students are interpreting their successes and failures, it is helpful to develop ways of asking them about their reasons for successes and failures. For example, if a student does poorly on a test and attributes it to his or her lack of ability, the teacher should not expect more effort or the use of different strategy on the next test. From the perspective of the students, effort expended and strategies used do not matter if they believe that they do not have the ability to succeed. Thus, teachers and school psychologists should ask students about their attributions, in order to gain a better understanding of their motivation and behavior. In turn, this information can be used to develop effective individual (e.g., attributional retraining) and classroom interventions.

Promoting Mastery Goals in the Classroom

A mastery goal orientation involves valuing learning for its own sake, with a preference for challenging assignments that require more effort and the use of better learning strategies while studying. The following are some ways in which activities can be developed to promote a mastery goal focus:

- ***Create a supportive classroom environment where mistakes are viewed as part of the learning process.*** Challenging tasks result in students making mistakes. Thus, it is important for teachers to emphasize that making mistakes is part of learning (Ames, 1992; Dweck & Leggett, 1988; McCombs, 1998). Recall that students with mastery goals are less concerned about making mistakes because they understand that what is most important is learning the material. Making mistakes is more of a problem for students with performance goals because they worry that this may call their ability into question. When teachers emphasize that learning is what is most important and that making mistakes is a natural part of the process, they encourage students to adopt a mastery goal orientation.
- ***Provide opportunities to redo work for credit and base grades, in part, on improvement and self-set attainment of goals.*** When teachers give students opportunities to improve their performance, it is much more likely that students will set mastery goals for themselves. The result should be a greater willingness to seek challenging tasks and to persist with difficult tasks.
- ***Reward in private*** (Ames, 1992; McCombs, 1998). As argued by Covington (1992), social comparisons can be psychologically damaging to students who frequently find themselves near the bottom of the grade distribution or notice that their work samples are never posted on the bulletin board. To help offset the consequences of negative social comparisons, comparisons should be made privately using students' own previous performance. This strategy helps make mastery goals more salient and de-emphasizes performance goals by recognizing the individual improvement of all students.

Promoting Self-Regulated Learning Skills in the Classroom

With the rapid changes that are occurring in the world many students are preparing for jobs that will no longer exist in a few years. Therefore students need to develop skills to direct their own life-long learning. The following are some suggestions for promoting self-regulated learning skills in the classroom:

- ***Teach students to set short-term goals and help them monitor their progress toward those goals*** (Ames, 1992; APA, 1997; Brophy, 1998; McCombs, 1998). When students are involved in the process of setting academic goals and also taught to monitor their progress as they work toward those goals, they are likely to be more motivated in the classroom.
- ***Help students develop the learning strategies they will need to accomplish their academic tasks.*** Such strategies include elaboration and organizational strategies for learning, as well as rehearsal strategies (Alexander & Murphy, 1998; APA, 1997; Weinstein & Mayer 1986). Elaboration strategies help students make connections between their prior knowledge and the new material while organizational strategies help students group the information in ways that are meaningful to them. Both de-emphasize simple memorization.
- ***Help students develop the self-regulation skills that will allow them to take responsibility for their own learning*** (Ames, 1992; APA, 1997; McCombs, 1998). A goal of the education process should be to develop students who are in control of their own learning. In order for someone to develop as a self-regulated learner they need opportunities to self-regulate in the classroom. This requires that students be provided ample opportunities to set goals, use a variety of strategies to reach those goals, and learn to monitor one's own progress toward those goals.

A MODEL PROGRAM FRAMEWORK FOR PROMOTING MOTIVATION

Whereas there is much that teachers can do to foster motivation, teachers' best efforts to promote mastery goals in the classroom can be undermined by school-wide policies and procedures that are oriented toward performance goals. For example, if a teacher wants to promote collaboration rather than competition among students in his or her classroom, but the school climate centers around competitive practices, it will be difficult for students to "switch gears." Therefore, Maehr and Midgley (1991) argued that there needs to be a match between the policies and procedures

TABLE 1

Summary of strategies for promoting motivation in the classroom

Promoting intrinsic motivation

1. Design moderately challenging tasks.
2. Use tasks with varying levels of difficulty.
3. Provide scaffolding when students are engaged in challenging tasks.
4. Induce curiosity by creating cognitive conflict.
5. Design novel tasks based on students' interests.
6. Include games or simulations in learning activities.
7. Allow students to make meaningful choices.

Promoting task value

1. Use real-world problems that help students develop utility value for the task.
2. Provide students with opportunities to develop connections between their prior knowledge and the course content.
3. Help students understand how academic tasks relate to the objectives of the class.

Promoting self-efficacy and attributions to effort and strategy use

1. Ensure that there is a match between the skills of the students and the choices provided.
2. Recognize sustained student effort and improvement.
3. Ask students about their attributions for success and failure.

of the school and those that are implemented in the classroom. They described this tension in the following way: "Teachers alone cannot carry the burden of significant school change; one must also engage school leaders in school change if the deepest structure of teaching and learning is to change" (p. 405–406).

In this section of the chapter, we describe the TARGET framework for enhancing motivation on a school-wide basis (Maehr & Midgley, 1991, 1996). The TARGET framework, originally proposed by Epstein (1989), refers to **T**asks, **A**uthority, **R**ecognition, **G**rouping, **E**valuation, and **T**ime. Epstein's original framework described family structures that influence children's motivation. Ames (1992) extended the TARGET framework to classrooms and also integrated achievement goal theory. Maehr and Midgley (1991, 1996) elaborated on Ames' work by stepping back from the level of individual classrooms to look at school-wide motivation.

We selected the TARGET framework because it integrates recent motivation research, focuses on the entire school, and has practical implications for school psychologists. Maehr and Midgley (1996) described the relationship between school culture and motivation using a theoretical model in which school cultures influence the meaning of school and school activities, which in turn influence students' investment in learning. The overarching goal of the TARGET framework is to promote mastery goals on a school-wide basis. Each of the elements within the framework concentrates on different aspects of schools that influence student motivation. It is important to note, however, that simply implementing strategies that promote mastery goals will not necessarily change the culture of the school. Rather, what is needed is ongoing dialogue between teachers and other school personnel about the culture of the school and their shared vision for the school.

The following sections briefly describe the elements within the TARGET framework, followed by a summary (see Table 2) of school-wide strategies that can be implemented to promote student motivation.

Task

In the previous section, some strategies were described that can be used by teachers to increase the intrinsic value of academic tasks. It is important to note, however, that individual teachers often are not the ones who determine the curriculum. Instead, the curriculum is already set and teachers must adhere to the curriculum to prepare

TABLE

Strategies for Promoting School-Wide Motivation

TARGET	Strategies for promoting school-wide motivation
Task	Encourage teachers to design authentic, meaningful academic tasks.
	Encourage teachers to create moderately challenging and interesting assignments.
	Provide teachers with more autonomy in making curricular and instructional decisions.
	Teach students how to set academic goals and monitor their progress toward those goals.
Authority	Provide students with real choices within the school, whenever possible.
	Avoid the use of extrinsic rewards to control students' behavior.
	Encourage students to accept greater responsibility for their learning.
Recognition	Recognize achievement gains for all students through "personal best" or "most improved" awards.
	Avoid the use of public displays that emphasize normative academic standing (e.g., honor rolls).
Grouping	Decrease or eliminate ability grouping or tracking.
	Encourage the use of collaborative learning models and other innovative ways of grouping students (e.g., multiage classrooms).
	Ensure that school resources are allocated in an equitable way.
Evaluation	Reduce the emphasis on letter grades for student evaluation.
	Encourage the use of narratives on student report cards.
	Promote the use of portfolios for student evaluation.
Time	Use block scheduling to allow for more complex learning tasks.
	Encourage teachers to use class time in ways that are consistent with their instructional goals.

students for standardized tests. Unfortunately, such inflexibility in the curriculum is likely to restrict the creativity of teachers and students. Maehr and Anderman (1993) argued that this problem occurs, in part, because educational materials often are "teacher proof," or too rigidly outlined in the school's curriculum. To help solve this problem, teachers need to be given more autonomy in making curricular and instructional decisions in the classroom.

Likewise, teachers need to become more engaged in discussions about the nature of the academic tasks in their classrooms. As Maehr and Midgley (1991) suggest, it would be helpful if the dialogue between teachers and school leaders addressed the question of whether academic tasks are "meaningful, challenging, interesting, [and] important" (p. 412). These discussions must be supported by school principals and other school leaders, or teachers will feel that there is little incentive to try to make academic tasks meaningful for students.

Authority

Nearly every school has a document that describes the policies and procedures of that school. The purpose of these policies and procedures is often to control the behavior of students rather than help students develop more responsibility. Interestingly, recent research has demonstrated that both parents and teachers favor the use of controlling classroom techniques (i.e., extrinsic rewards) for the purpose of motivating children (Boggiano & Katz, 1991). However, researchers disagree about the effectiveness of emphasizing rewards to foster motivation and learning (Cameron & Pierce, 1994). Despite the conflicting findings, it appears that rewards used to control students' behavior have a negative effect on intrinsic motivation, while rewards that provide students with *information* about their academic performance, have a positive effect (Schunk, 2000).

Teachers and school leaders should also help students develop more self-regulation and responsibility for their actions, especially at the middle school and high school levels. However, the idea that students should assume greater responsibility for their learning often fosters thoughts and feelings among educators that they are losing control in the classroom. There are many reasons, however, why the development of responsibility and self-regulated learning skills may actually contribute to improved classroom management. For example, McCombs and Whisler (1997) described a middle school math teacher who challenged her class to apply their knowledge of the concepts of perimeter and area to help develop a plan to resurface the schoolyard (the school lacked the financial resources to pay for the resurfacing). The students became highly motivated and ultimately developed a plan to "sell" different sized rectangles of the schoolyard to parents and others to pay for the resurfacing. The students wrote up their plan and submitted it to school officials for approval. They also built a model of the yard, with sponsors' names placed on their respective rectangles, which was then placed in the school's display case. This example demonstrates how a teacher's use of an authentic learning task helped students assume greater responsibility for their learning. It also serves as an example of a school culture in which teachers, students, and school leaders shared authority.

Recognition

The way in which students are recognized for academic achievement is strongly related to school policies. Many schools recognize only the top performing students in the school, while ignoring the other students. As noted earlier, these types of practices can be devastating to low-achieving students because these students recognize that the rewards are out of their reach (Covington, 1992). School-wide practices should provide opportunities for recognition that are available to all students.

Grouping

Many schools have policies regarding the way in which students are grouped. For example, decisions about ability grouping and tracking are often made at the school level. Recent reviews of the literature on "between-class ability grouping" (i.e., whole classes formed on the basis of ability) have shown negative consequences for low-ability students (Slavin, 1990). One reason for the negative effects of ability grouping is that teachers assigned to lower tracks sometimes have low expectations for these students, which can translate to lower-quality instruction and the use of simplistic academic tasks, from which the students learn very little (Stipek, 1998).

School-wide policies also influence the use of cooperative learning groups. If there is school-wide support for collaborative learning models, teachers are likely to use these techniques in their classrooms. These techniques often employ the use of heterogeneous groups, which allow students of different ability, gender, race, and ethnicity to work together toward a common academic goal (Johnson & Johnson, 1985).

Another school-wide grouping practice involves the use of multiage classrooms. Maehr and Midgley (1996) described the process an elementary school went through when deciding to implement multiage classrooms:

> What became increasingly evident was that introducing multiage classrooms was more than an organizational innovation. It provided an agenda for reconsidering the nature of teaching and learning processes. In a real sense, the organizational change was not really important; what was significant was the fact that it presented new challenges, produced new thinking, and gave an opportunity for putting theory into practice (Maehr & Midgley, 1996, p. 147).

As Maehr and Anderman (1993) noted, the way students are grouped also has implications for the way school resources are allocated. For example, are computers available only to students in high-ability tracks? Are new, up-to-date books available to all students? Are there enough materials and supplies available for project-based, collaborative activities? These questions all center around the grouping practices in schools.

Evaluation

Rather than relying on normative evaluations of student learning, the goal of evaluation should be to provide information to students about their academic progress. Many schools have begun to use narratives on students' report cards, which provide information about the student's improvement over time. This has significant motivational implications because students at all ability levels can be recognized for their achievement gains.

Another way to evaluate students is through the use of portfolios. According to Paulson, Paulson, and Meyer (1991), portfolios can be defined as a "purposeful collection of student work that exhibits the student's efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for judging merit, and evidence of student self-reflection" (p. 60). Note that the portfolio includes a student's self-reflections. Monitoring progress toward goals is an important part of self-reflection (McCombs, 1998). Recall that when students are involved in the process of setting academic goals and also taught to monitor their progress as they work toward those goals, they are likely to be more motivated in the classroom.

Time

The time component of the TARGET framework addresses how schools allocate time during the school day (Maehr & Anderman, 1993). For example, most schools are structured by class periods, generally 40–50 minutes in length. With respect to both motivation and learning, short class periods have some negative implications. If students can rarely complete complex assignments because of time constraints, there is the risk that teachers will give students shorter, less complex work that can be completed in a short period of time. Block scheduling is one way to help solve this problem, but the dialogue needs to continue among all school personnel about the best ways to allocate time for teaching and learning.

CONCLUSION

Whave reviewed recent theories of motivation in this chapter and suggested guidelines for implementing effective strategies for promoting achievement motivation. We then described the TARGET framework that Maehr and Midgely (1991) outlined for a schoolwide approach to promoting achievement motivation. Our goal for this chapter was to provide teachers and school psychologists with useful suggestions for implementing programs designed to increase students' academic achievement motivation.

RECOMMENDED RESOURCES

Alderman, M. K. (1999). *Motivation for achievement: Possibilities for teaching and learning*. Hillsdale, NJ: Erlbaum.

This new textbook on motivation and achievement provides an excellent integration of current research in motivation and also provides practical and useful strategies for school personnel.

American Psychological Association's Board of Educational Affairs. (1997). *Learner-centered psychological principles: A framework for school reform and redesign*. Washington, DC: American Psychological Association.

The learner-centered principles are a great example of how to integrate what is known about cognition with what we know about motivation. The framework is organized into 14 easy-to-understand and apply principles that have been developed by researchers interested in classroom learning.

Brophy, J. (1998). *Motivating students to learn*. Boston: McGraw-Hill.

This book offers many useful examples of motivation applied to learning. It includes many examples and is particularly useful for helping to understand the nature of intrinsic motivation and extrinsic incentives.

Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education: Theory, research, and applications*. Englewood Cliffs, NJ: Merrill/Prentice Hall.

This textbook on motivation reviews the major theories of motivation and provides classroom applications. It is one of the most complete references on motivation in education on the market.

Stipek, D. J. (1998). *Motivation to learn: From theory to practice* (3rd ed.). Boston: Allyn & Bacon.

Stipek does a very good job of translating motivational constructs into classroom application. This third edition also provides a variety of useful tools for monitoring one's use and understanding of the classroom applications.

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CHAPTER 5:
Preventing Academic Failure

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Addressing the needs of students whose attempts at learning result in failure is one of the most pressing and persistent problems faced by educators today (Franklin, 1998). These students carry labels such as low achiever, slow learner, learning disabled, mentally retarded, and at-risk. Regardless of label, a growing number of students are experiencing school failure as a result of not acquiring basic academic skills and strategies as set forth in grade-level core curricula. National studies and educational reform efforts often cite statistics that highlight these facts. For instance:

- ❑ Approximately 20% of all students have difficulty learning to read (Good, Simmons, & Smith, 1998);
- ❑ Each year approximately 2.3 million students are retained in grade (Rafoth & Carey, 1995)
- ❑ Illiteracy rates among minority youth are approximately 40% (Adams, 1990);
- ❑ Approximately 85% of youth affiliated with the court system are illiterate (Adams, 1990); and
- ❑ A significant proportion of students fail to meet basic proficiency standards in reading and mathematics (National Assessment of Educational Progress, 1991).

Whereas concerns about below average academic performance in reading, mathematics, and writing are prominent, the needs of students experiencing academic difficulties are diverse and stem from a myriad of factors. Indeed, never before have the demographics of individual classrooms presented such a diverse range of demands on teachers (Kameenui & Simmons, 1999). It is common to hear teachers comment that each year as they open the doors to their classrooms, they are faced with students who have a broader range of academic needs than in previous years. The challenge this presents for classroom teachers is vividly illustrated by research revealing that the range of instructional levels in a typical general educational classroom is about five grade levels (Jenkins, Pious, & Jewell, 1990).

Classroom diversity is influenced by a number of factors, including: (a) increasing numbers of students from diverse cultural and linguistic backgrounds (Natriello, McDill, & Pallas, 1990); (b) growth in the number of students who live in poverty (Hodgkinson, 1995); (c) lack of support from parents for student achievement (Fish, 1995); (d) increasing numbers of students with disabilities who are educated in general education classrooms (McLeskey, Henry, & Hodges, 1999), and (e) increasingly higher demands for academic achievement placed on students and their teachers (Eisner, 1999).

In our efforts to address the needs of students experiencing academic difficulties, consideration must be given to past and present practices that schools use to raise student achievement. Whereas most agree that prevention of academic failure should be our ultimate goal, the reality of education today is that we spend considerable time and money on efforts to remediate academic problems, primarily through the use of large-scale compensatory education programs, especially Title 1 and special education programs. These programs typically are provided only after a student has experienced failure for an extended period of time, typically months or years, and a "problem" has been identified (e.g., the student has a learning disability). Perhaps it would be reasonable to rationalize this emphasis on remedial instruction as the predominant mechanism to resolve widespread achievement problems, *if* the outcomes were positive and sustainable. Unfortunately, progress made by students in these programs often has been cited as minimal and short lived, especially when considering the level of funding and resources provided (Slavin, 1999; Spear-Swerling & Sternberg, 1996). Compensatory and special education efforts have been described as shortsighted and overly expensive—restricting opportunities and experiences for children and providing too little, too late (Shinn & McConnell, 1994).

Classrooms must be changed in significant ways to accommodate this increasing range of student needs and to prevent student failure. Innovations must be identified that result in improved student achievement, and these innovations must be implemented successfully in general education classroom settings. Because of changes in the demographic composition of classrooms, the notion of "one size fits all" curriculum and instruction is no longer a viable approach (Schumm, 1999). Teachers need to provide the systems and supports that students need to be successful learners. Modifying and adapting curriculum materials and instruction is unavoidable because no one educational tool is accessible and useable by all students (Kameenui & Simmons, 1999).

In this chapter we present methods and approaches that may be used in general education classrooms to support a broad, diverse range of students and to prevent academic failure. Moreover, we focus on methods that have been proven successful based on three criteria. First, they have been proven effective for improving student academic achievement. Second, they have been viewed widely as acceptable, and thus have been adopted and used by general education classroom teachers. Third, these methods/approaches, in general, may be used to prevent academic problems. This approach is built on a recognition of the need to arrange educational services so that the general education classroom is, and never ceases to be, the appropriate setting for delivering educational programs for as many students as possible. As Slavin (1999) has so succinctly stated, "Success in the early grades does not guarantee success in later schooling, but failure in the early grades virtually ensures failure in later schooling. This is one problem that must be solved" (p. 105).

EFFECTIVE STRATEGIES

We begin by addressing issues related to teachers' adoption and use of effective strategies for preventing academic failure. We address the question, "Why are innovations that have been proven effective in the professional literature used so infrequently in schools?" Next, we present descriptions of those practices that have been proven effective and seem to be widely used by teachers to address the diverse range of academic needs they face in their classrooms. These practices include student grouping patterns, adaptations in the general education curriculum, adaptations in instruction the use of effective instructional methods/strategies, and intensive instruction.

CONSIDERATIONS RELATED TO TEACHERS' ADOPTION AND SUSTAINED USE OF INNOVATIONS

Inconsistency between educational research and practice has been noted by many educators (Gersten, Vaughn, Deshler, & Schiller, 1997). There is often little connection between what researchers view as effective practices and teachers' actual classroom practices. This results in a circumstance where many classroom practices have little support in the professional literature, while innovations that have strong support in the professional literature may not be used in schools. Two examples of this "research-to-practice" gap have been recently provided in the professional literature, which serve to illuminate factors that must be considered when teachers are asked to adopt and sustain new classroom innovations. One example addresses Mainstream Assistance Teams (Fuchs, Fuchs, Harris, & Roberts, 1996), while the other is a videodisc math program (Gersten & Brengelman, 1996; Woodward & Gersten, 1992).

As part of a research and development project, several university faculty and support staff worked with 34 elementary schools to develop and implement building-based teacher support teams (Fuchs et al., 1996). These Mainstream Assistance Teams (MATs) were designed to provide consultative support to teachers in addressing the needs of difficult-to-teach students. The investigators sought to implement a single MAT model in each of the schools while ensuring "treatment fidelity" (i.e., making sure that the same model was used in each school). Limited consideration was given to differences in school cultures, teacher beliefs, and experiences across the schools. Furthermore, each MAT was built upon the investigators' perspective regarding effective instruction and the use of a behavioral consultation model, which they demonstrated to be effective based on empirical investigations.

In a summation of the project's findings, it was demonstrated that local educators could effectively run MATs without assistance from the investigators and that the teams were effective in helping classroom teachers address the needs of many difficult-to-teach students (Fuchs et al., 1996). Thus, as the project ended, the investigators left the school system with a model that was proven effective; with 150 general educators, special educators, school psychologists, and guidance counselors in 34 elementary schools who were trained in the use of the model; and with a comprehensive handbook that could be used as a resource to support the maintenance of the MATs.

One year after departing, the investigators followed up on the MATs and noted that after the "federal monies ran out and we stopped helping to organize the MATs, we failed to find one instance of MAT use" (Fuchs et al., 1996, p. 261). In explaining why the MATs failed to be maintained in the schools, the authors placed much of the blame on local administrators, and asked the question, "When Will the Leaders Lead?" (p. 264). They went on to state that they anticipated that if the MATs were empirically demonstrated to be effective, the district should then "require, or at least strongly encourage, all elementary and middle schools to establish MATs" (p. 265).

If an innovation is demonstrated to be "effective," most investigators seem to think that it will be readily adopted and used by teachers (Gersten et al., 1997). This is obviously not the case and the findings of Fuchs et al. (1996) are not unusual. Fortunately, several investigators have begun to study these research-to-practice issues in an attempt to better understand how to ensure that teachers use effective practices, and that effective practices are usable by teachers. Consider a second example, in which the authors made significant attempts to ensure that their innovation would be used by teachers.

Several years ago, Gersten and colleagues (Gersten & Brengelman, 1996; Woodward & Gersten, 1992) began working with a group of seven high school teachers who stated that they had struggled for years, often unsuccessfully, to teach fractions to students with disabilities. In response to this need, a videodisc program was developed that was received with "extraordinarily high levels of enthusiasm" (Gersten & Brengelman, 1996, p. 71) by the teachers. The authors believed that this innovation had a high probability of success in that they had designed it to focus on a relatively limited content area; teachers were asked only to change a selected aspect of their teaching related to one unit of instruction; and teachers were provided technical support and feedback from a special education teacher who was skilled in professional development and familiar with the content of instruction and the videodisc program being used. Initially, the teachers responded enthusiastically to the use of the videodisc technology, commenting on the quality of the graphics, and how the program increased student motivation and made the concepts being taught much easier to understand. For the entire period during which the researchers remained in the setting the videodisc program was used successfully. Measures of student knowledge of fractions revealed that the videodisc program produced increased achievement levels. However, as Gersten and Brengelman (1996) later noted: "Despite this seeming success, 1 year later, only two of the seven (teachers) chose to continue using the videodisc program" (p. 72).

Both of these investigations would be considered a success from the perspective of those who publish educational research. However, from another perspective, the MAT was not successful because no one used the "innovation" after the university professionals departed. In contrast, the videodisc program could be described as, at the least, a limited success, in that approximately 30% of the participants continued to use the technology after the university professionals departed.

Many researchers believe that innovations will be used if the designers (a) demonstrate that the innovation is effective, using experimental research methods; and (b) describe the innovation thoroughly, so that a teacher can understand how it may be applied in a classroom. Knowledge of an innovation is, of course, important. Teachers seem to be more willing to use innovations that are well described, concrete, specific, and practical (Gersten et al., 1997). In addition, knowledge of the effectiveness of an innovation is important. Teachers are likely to use an innovation if it is proven effective for a broad range of students in their classes (Gersten et al., 1997). However, as seen in the two examples above, these two conditions do not ensure adoption of an innovation. Two additional factors help explain why programs of demonstrated value are not adopted: (a) whether the innovation fits into the ebb and flow of the classroom, and (b) whether teachers are provided sufficient support to successfully implement the innovation.

Does the Innovation "Fit" into the Ebb and Flow of a Given Classroom?

This is perhaps the most important factor that teachers base their decision on when they consider whether to adopt an innovation. Researchers all too often seem to take the perspective that teachers are technicians who should mindlessly implement any intervention that is proven to benefit students. Moreover, many researchers believe that the intervention should be implemented precisely as described (ensuring treatment fidelity or integrity), and any modification by the teacher could invalidate its effectiveness. The extensive professional literature on school change (Benathy, 1991; Fullan & Stiegelbauer, 1991; Fullan, 1993; Gersten et al., 1997; Goodman, 1995; Sarason, 1990) strongly suggests that this perspective is misguided. Classrooms are far too complex and dynamic for an innovation to be implemented exactly as described by a researcher. To be successful, most instructional approaches *must* be subject to frequent adjustment or adaptation based on student needs, the nature of the curriculum being addressed, and a plethora of other factors. Furthermore, teachers are much more likely to feel ownership for an innovation if they can adapt it to the ebb and flow of their classroom as it is being initially implemented.

In considering how teachers make decisions regarding whether an innovation is a good fit, it often is assumed that teachers organize their classrooms based on their philosophy and beliefs about teaching and learning. Of course, these beliefs rarely if ever come in a pure form. For example, rarely does a teacher subscribe only to a "break the code" or "whole language" philosophy of teaching. Rather, teachers tend to lean in one direction or another along a continuum. They pick and choose methods and approaches that best fit their beliefs and that seem to be effective. Any innovation is built on theoretical assumptions regarding teaching and learning, and these assumptions play out in certain ways in classrooms that may or may not be acceptable to a given teacher. For example, whole language reading instruction fits well into the philosophies and beliefs about teaching and learning held by many teachers, but not by a lot of others. The same can be said of cooperative learning, class-wide peer tutoring, constructivist approaches to mathematics instruction, multiage grouping in classrooms, and so forth. In short, no innovation will "fit" into *every* classroom. Teachers, and their classrooms, simply vary too much for this to be the case. With these ideas in mind, innovations that are most likely to work in a given teacher's classroom are those that fit the teacher's philosophy and beliefs about teaching and learning.

The importance of a "natural fit" for innovations to be adopted can be seen in teachers' reactions when resources are added to the general education classroom as part of an inclusive program. Several authors have noted difficulties that may arise when these additions are in the form of a special education coteacher, or an instructional assistant (Ferguson, Meyer, Jeanchild, Juniper, & Zingo, 1992; Giangreco, Dennis, Cloninger, Edelman, & Schattman, 1993). For example, Giangreco et al. (1993) interviewed classroom teachers who received assistance in supporting students with substantial needs in their classrooms. Several of these teachers noted that they received some help that they could do without. This included "help" to address student goals not identified or shared by teachers or referenced to the classroom program, "help" that disrupted the classroom routine, as well as "help" that was overly technical and specialized. In fact this type of "help" was sometimes confusing to teachers or considered irrelevant. Giangreco and colleagues further noted that most teachers found that the presence of a student with a disability did not create any more disruption than that of other students without disabilities; however, the presence of the specialists and other visitors who accompanied the students with disabilities did.

Similar difficulties may occur when general education classrooms are changed by altering what students are expected to learn and how they are taught. For example, Giangreco et al. (1993) noted that classroom teachers favored the use of "typical activities, materials, and approaches over special ones" (p. 367). While specialists did not always agree with the classroom teachers in this regard, one teacher noted that the specialists "get so specialized that they overlook the simple things" (p. 367). They went on to note that while teachers recognized that some special approaches were helpful and necessary, others were unnecessary and stigmatizing. Giangreco and colleagues concluded by stating that "specialists attempted to transplant traditional special education practices into general education environments. This was neither welcomed nor considered helpful by general education teachers" (p. 371). In sum, several teachers viewed the role of the specialist as a barrier to inclusion, rather than as a facilitator.

It is important to recognize that many innovations cannot be used successfully unless teachers examine their philosophy and beliefs about teaching and learning, and change the daily routine of general education classrooms, at least to some degree. Most innovations described later in this chapter require this examination and change, but will result in what could be characterized as only minor-to-moderate changes in classroom routines. However, there are some innovations (e.g., multiage classrooms, transforming curriculum) that require major changes in teacher philosophies and beliefs, as well as in classroom routines. These innovations can be quite effective in changing classrooms so that a wide range of student academic needs can be met, but they require that teachers spend significant time examining and changing their practices (Goodman, 1995).

Will the Teacher Receive Sufficient Support to Implement the Innovation?

To ensure that teachers are well prepared to successfully develop and implement an innovation in their classrooms, sufficient opportunities for professional development must be provided. As teachers implement innovations, they are often asked to rethink what they do, unlearn old ideas and accept new responsibilities, and expand their roles (Fox & Ysseldyke, 1997; Gersten et al., 1997). These changes require that teachers gain new understandings of teaching and learning, as well as new skills that are needed to ensure that they are well prepared to implement the required changes. Furthermore, strong evidence exists to suggest that while some teachers may learn some new skills in isolation, letting go of old habits and routines often requires the collaboration and support of other teachers (McLaughlin, 1995, cited in Gersten et al., 1997).

With these ideas in mind, professional development and time to collaborate are required if teachers are to adopt innovations and change their practices. Bull and Buechler (1997) offered several principles that are useful to ensure that these activities are tailored to the individual needs of the local school and are successful in preparing teachers for the changes that are being implemented. These authors suggested that effective professional development: (a) is school based; (b) uses coaching and other follow-up procedures; (c) is collaborative; (d) is embedded in the daily lives of teachers, providing for continuous growth; and (e) focuses on student learning and is evaluated at least in part on that basis. While this type of professional development is much more intricate, difficult to manage, and time consuming than traditional "workshops," it is much more likely to result in teacher acceptance and sustained use of an innovation. Moreover, hands-on support in the teacher's own classroom provides the type of skills and knowledge that will help the teacher to sustain the change, or decide that the innovation is not a good fit for his or her classroom.

In sum, innovations will more likely be adopted and used over time in general education classrooms if:

- ☐ The innovation is well described in concrete, specific, and practical terms (Gersten et al., 1997).
- ☐ Teachers can adapt the innovation to meet the particular needs of their classrooms.
- ☐ The innovation fits the teacher's philosophy and beliefs regarding teaching and learning.
- ☐ The innovation fits naturally and unobtrusively into the ebb and flow of the classroom.
- ☐ The innovation is effective (from the teacher's perspective) with a wide range of students.
- ☐ Teachers receive sufficient support (including time) to implement the innovation.

EMPIRICALLY SUPPORTED INNOVATIONS THAT TEACHERS OFTEN ADOPT AND USE IN CLASSROOMS

In this section, innovations are presented that are clearly described in the professional literature, have been proven effective, and that frequently have been adopted and used by teachers. These innovations are altering student grouping patterns (e.g., class-wide peer tutoring); making changes in the curriculum (e.g., curricular adaptation); adapting and differentiating instruction; employing effective instructional methods/strategies for specific student needs (e.g., learning strategies); and employing intensive instructional approaches (e.g., direct instruction).

Altering Student Grouping Patterns

One approach that may be used to address the broad range of academic needs that students bring into their classrooms is to vary instructional grouping patterns. This strategy is employed to use more efficiently the limited resources of the classroom, and to provide the teacher with more manageable groups of students with whom to work. As Vaughn, Bos, and Schumm (1997) have noted, research has not identified one "best" approach to grouping. Rather, many teachers have realized that a variety of grouping patterns is best for a classroom with a diverse range of students. Thus, different grouping patterns should be used for different purposes, including whole groups, same-ability small groups, mixed-ability small groups, and cooperative groups.

Vaughn et al. (1997) further suggested that flexible grouping patterns are needed for successful inclusive classrooms, and that these grouping patterns should be built upon five principles (Unsworth, 1984):

- ❏ There should be no permanent groups;
- ❏ Periodically, groups should be created, modified, or disbanded, depending on student needs;
- ❏ At times there may be only one group, consisting of all students in the class;
- ❏ Depending on the activity and purpose of the group, the size of the group should vary from 2–3 to 9–10 students; and
- ❏ Group membership should not be fixed; it should vary based on content.

One approach to grouping of students that many teachers and researchers have found useful in meeting a broad range of academic needs is cooperative learning (Friend & Bursuck, 1999; King-Sears, 1998; Udvari-Solner & Thousand, 1996; Vaughn et al.,1997). As Udvari-Solner and Thousand (1996) have noted, there are three approaches to student interactions in classrooms—individualistic (students working alone toward their own goals, with no concern for the progress of others); competitive (students working to see who is the "best"); and cooperative (students working together with a stake in the success of others). While individual and competitive approaches interfere with the building of community, cooperative methods transform "the classroom into a microcosm of the diverse society and work world that students will enter and into a place for acquiring the skills to appreciate and cope with people who initially might be perceived as 'different' " (Udvari-Solner& Thousand, 1996, p. 189).

Whereas cooperative learning takes many forms, common characteristics of various approaches include interdependence of group members, face-to-face interactions, individual accountability, and a focus on interpersonal skills (Friend & Bursuck, 1999). The forms of cooperative learning used most frequently to meet a broad range of academic needs in general education classrooms, are Cooperative Integrated Reading and Composition (Jenkins et al., 1994); Learning Together (Johnson & Johnson, 1993); Jigsaw (Aronson, Blaney, Stephen, Sikes, & Snapp, 1978); Team Assisted Individualization (Slavin, 1995) ; Student Teams-Achievement Divisions (Slavin, 1995); and Classwide Peer Tutoring (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986).

The approach to cooperative learning that has perhaps been most widely and successfully used to address student academic needs is Classwide Peer Tutoring (Delquadri et al., 1986; Fisher, Schumaker, & Deshler, 1996; Gersten, 1998; King-Sears, 1998). This approach was designed to provide students with increased opportunities for active academic responding (Delquadri et al., 1986; Fisher et al., 1996). In using this approach, the class is divided into two teams that engage in competitions over a period of weeks. During Classwide Peer Tutoring sessions, students tutor one another for 15 to 20 minutes in pairs, following structured, teacher-developed lessons. Developers of Classwide Peer Tutoring have noted that in order for this method is to be effective, "teachers must interact with each group to keep students focused, tutee progress must be assessed continually, and tutoring sessions must be scheduled regularly" (Fisher et al., 1996, p. 125). Classwide Peer Tutoring may be used to enhance content learning, promote diversity and integration, and free teachers to prepare for other instructional activities (Smith, Polloway, Patton, & Dowdy, 1998).

Another approach to grouping students for instruction that is being used with increasing frequency in general education classrooms is multiage grouping (King-Sears, 1998; Udvari-Solner & Thousand, 1996). Multiage grouping entails including students from more than one grade level in a classroom. For this to succeed, some traditional views of learning must be discarded, such as the view that students at a given age level have similar needs and abilities and benefit from similar instruction, or that learning by grade level is a predictable, sequential, and orderly process. In contrast to these beliefs, views supporting a multiage approach to grouping would include such perspectives as: (a) the learning process is continuous and dynamic; (b) children are expected and encouraged to learn at different rates and levels; and (c) learning experiences should be designed that are developmentally appropriate and that meet the needs of a diverse range of students. The components of a multiage classroom that make it effective for students without disabilities are the same components that make this grouping arrangement effective for students with disabilities. These components include an emphasis on heterogeneity, flexible grouping, a child-centered curriculum, and the use of differentiated instructional methods (Udvari-Solner & Thousand, 1996).

Changing the General Education Curriculum to Accommodate Diversity

Some disagreement exists in the professional literature, as well as in practice regarding the extent to which the general education curriculum should be changed to accommodate diversity. Some educators strongly state that the curriculum must be dramatically changed to accommodate diverse student needs (Ferguson, 1995; Pugach & Warger, 1996; Udvari-Solner & Thousand, 1996), while others suggest that a more modest approach involving curricular adaptations can be used to achieve this goal (Vaughn et al., 1997; Zigmond & Baker, 1997). These two alternatives are addressed below.

Adapting the General Education Curriculum—It is important to recognize that some students in every classroom will not learn everything that other students learn, in the same way that other students learn. Thus, if these students are to be successful in the general education classroom, adaptations in the general education curriculum must be made. Vaughn et al. (1997) argued that much of the work in adapting a classroom for a diverse range of students should be addressed in planning instruction for the classroom. They provided extensive information regarding planning for both the school year, as well as for individual units. A brief description of this approach to instructional planning, an approach to curricular adaptation that has been found to be effective in many schools, follows.

Vaughn and colleagues (1997) used a Pyramid metaphor to guide instructional planning for diverse student needs, and for enhancing learning for all students. In planning instruction, the teacher initially identifies information from an instructional unit that makes up the base of the Unit Planning Pyramid. The base consists of information from an instructional unit that is *essential* for all students to learn. Next, the teacher identifies information that makes up the middle part of the pyramid, consisting of information that is important for *most*, but not all students to learn. The top of the pyramid consists of information that the teacher expects only a few, highly motivated students will learn. This planning process allows the teacher to consider the diverse range of students in the class, and to determine the range of content that each student needs to master regarding a given content area.

Vaughn et al. (1997) offered the following cautions regarding the use of the Unit Planning Pyramid.

- ☐ All students should have the opportunity to be exposed to the same information, although how the information is presented may vary, based on student needs.
- ☐ All students should "have equal access to information that represents all levels of the Pyramid" (p. 46).

- Assignments to particular levels of the Pyramid should not be made based on students' ability. Students who learn at the higher levels of the Pyramid should do so based on their interests, prior knowledge, or personal experiences.
- Instruction and related activities addressing the content at the bottom of the Pyramid should be no less stimulating than instruction and activities at the higher levels. For example, creative and fun activities, instead of worksheets, should be used at all levels.

A second resource for curricular adaptation was provided by Deschenes, Ebeling, and Sprague (1994), who described a systematic approach to planning classroom instruction and adapting for individual student needs. These authors suggested that teachers often use one of nine types of adaptations for students with disabilities in inclusive classrooms. These adaptations are briefly described in Table 1.

Deschenes and colleagues provided an extensive description of their adaptation process, along with examples from elementary and secondary classrooms. They also offered several assumptions about teaching and learning to guide teacher decision making regarding adaptations. These assumptions include:

- *All students can learn what is important for them to learn.* The key issue in this assumption relates to determining what is important for each student to learn. Not all students need to learn the same things; thus, goals are differentiated, and student outcomes are based on individual student needs.
- *Adaptation is for all students.* This assumption is built upon the idea that it is appropriate to make curricular adaptations for any student who is not experiencing success.
- *Adaptation must become the rule rather than the exception.* This assumption captures the idea that adaptations are not new; but are used by many effective teachers who seek to meet the needs of all students in their classrooms. The diverse range of students in most classrooms thus demands that many adaptations be made to ensure student success.
- *Collaborative planning is crucial.* This assumption is built upon the perspective that teachers are better able to adapt instruction for individual student needs if they collaborate with others.

In addition to information regarding approaches to adapting instruction, Deschenes et al. (1994) provided suggestions for a

TABLE 1
Nine Types of Adaptations

ADAPTATION	DEFINITION	EXAMPLE
Size	Adapt the number of items that the learner is expected to learn or complete	Reduce the number of spelling items the learner must complete
Time	Adapt the time allocated for learning, task completing, or testing	Individualize a time line for completing a task
Level of Support	Increase the amount of personal assistance with a specific learner	Assign peer buddies
Input	Adapt the way instruction is delivered	Use more concrete examples
Difficulty	Adapt the skill level, problem type, or rules	Allow use of calculator to figure out math problems
Output	Adapt how the student responds to instruction	Instead of writing responses, allow verbal responses
Participation	Adapt the extent to which learner is actively involved in a task	Ask a student to sit with a peer and listen to the peer read vocabulary words and definitions
Alternate Goals	Adapt the goals or outcome while using the same material	Ask one student to learn the names of states, while others learn this information as well as state capitals
Substitute Curriculum	Provide different instruction and materials to meet a student's individual goals	During a language test, have one student learn computer skills in the computer lab

Note. Adapted from *Adapting curriculum and instruction in inclusive classrooms: A teacher's desk reference* (p. 19) by C. Deschenes, D. G. Ebeling, and J. Sprague, 1994, Bloomington, IN: The Institute for the Study of Developmental Disabilities. Adapted with permission.

range of accommodations that may be made to allow a diverse range of students to participate fully as members of the classroom learning community. These adaptations address classroom instruction, reading and written assignments, testing and grading, and homework. A summary of these suggestions is provided in Table 2.

It is noteworthy that the approaches to adapting curriculum in the general education classroom that were provided by both Vaughn et al. (1997) and Deschenes et al. (1994) assume that the general education curriculum essentially will remain unchanged. Other professionals have suggested that if a broad range of student needs are to be successfully addressed in general education classrooms, more fundamental changes in the general education curriculum must occur, as follows.

Transforming the General Education Curriculum— Pugach (1995) argued that failing to question and fundamentally change the general education curriculum results in an "additive" approach to school change, wherein the basic assumptions underlying the general education classroom remain unchallenged. These assumptions suggest that the curriculum of the general education classroom is acceptable and the role of special educators is to "soften the blow" of the curriculum by adapting it. Additionally, practices such as strategy instruction (Deshler, Ellis, & Lenz, 1996), class-wide peer tutoring (Mathes, Fuchs, Fuchs, Hanley, & Sanders, 1994), and curriculum-based measurement (Tindal & Marston, 1990) provide an adequate buffer for the dilemmas posed by the standard curriculum paradigm and standard teaching practices. Pugach (1995) went on to note that general education classrooms reflect what we already know and are already comfortable with, including existing ideas about teaching and learning, and the support provided to students who have difficulty in school. Programs built upon these assumptions, do "not seem powerful enough to recreate and restructure classrooms and schools"(p. 216).

At the most basic level, Pugach (1995) and others (e.g., Udvari-Solner & Thousand, 1996) were criticizing the reductionist or behavioral approach to learning and teaching upon which most traditional classroom practices are built. Underlying this approach to teaching and learning are the following assumptions (Udvari-Solner & Thousand, 1996):

- ☐ Learning only takes place in a rigid hierarchical progression.
- ☐ Learning is the accumulation of fragments of information.

TABLE 2

Instructional and Curricular Accommodations for Inclusive Classrooms

CLASSROOM INSTRUCTION

- ☐ Establish consistent classroom routines
- ☐ Present information using a multisensory approach (visual, auditory, hands-on)
- ☐ Preteach critical vocabulary
- ☐ Activate necessary background knowledge and prior learning
- ☐ Provide advanced organizers in written or diagram form
- ☐ Write key points on the board or an overhead
- ☐ Use frequent demonstrations and models to convey new concepts
- ☐ Provide study guides that identify key concepts and vocabulary
- ☐ Use samples of finished products as models
- ☐ Provide several options for students to demonstrate knowledge (oral, written, diagrams)
- ☐ Give directions orally, specifying small, distinct steps
- ☐ Use written backup for oral directions
- ☐ Check often for student understanding; review critical knowledge
- ☐ Allot time for teaching learning strategies as well as content (test taking, note taking)
- ☐ Use computers to enhance learning of basic skills
- ☐ Provide students with ongoing feedback about performance

READING & WRITTEN ASSIGNMENTS

- ☐ Provide stories and chapters on tape
- ☐ Preview reading assignment in small group or with peer buddy
- ☐ Allow student to work with a peer on reading assignments
- ☐ Recognize the value of listening comprehension
- ☐ Ask parents to provide extra practice with reading assignments at home
- ☐ Simplify written directions by limiting words and numbering steps
- ☐ Highlight reading materials and study guides
- ☐ Reduce length and/or complexity of written assignments
- ☐ Allow extra time for written work
- ☐ Do not penalize for errors in spelling, punctuation, penmanship
- ☐ Provide a copy of a peer's class notes
- ☐ Mark items that are *correct* on paper, not items that are *wrong*
- ☐ Provide credit for partially completed assignments
- ☐ Allow student to dictate answers to peers, tape recorders, parents
- ☐ Pair students for completion of written assignments
- ☐ Utilize cooperative group arrangements with designated responsibilities for reading, and/or writing across members

Table 2 continued on page 188

TABLE 2
Instructional and Curricular Accommodations for Inclusive Classrooms
(continued)

TESTING AND GRADING

- ☐ Provide the opportunity to have the test read orally
- ☐ Read directions orally, give oral explanation of directions
- ☐ Reduce the number of items
- ☐ Simplify terminology or concepts
- ☐ Highlight key words in questions
- ☐ Teach students test-taking skills
- ☐ Preview language of test questions
- ☐ Allow additional time for test taking
- ☐ Modify the test format (e.g., short answer, multiple choice)
- ☐ Allow use of learning aids during tests (e.g., calculators, notes, books)
- ☐ Provide a menu of options for student to demonstrate knowledge other than or in addition to tests (e.g., projects, extra credit)
- ☐ Allow student to take tests with classmates in pairs or small groups
- ☐ Provide study guides with key concepts, vocabulary in advance of test
- ☐ Allow test retakes and give credit for improvement
- ☐ Create a modified grading scale or grade on a pass/fail basis
- ☐ Provide information on the standard report card indicating that adaptations have been made

HOMEWORK

- ☐ Communicate homework expectations to parents
- ☐ Specify modifications to be used for homework assignments
- ☐ Use homework log to communicate directions and timelines
- ☐ Specify time student should spend on homework
- ☐ Provide home set of texts/materials for preview/review
- ☐ Reduce homework assignments
- ☐ Allow homework papers to be typed by student, or dictated or recorded by someone else
- ☐ Have student start homework assignments in class
- ☐ Give homework on skills student can already perform

Note. Adapted from *Adapting curriculum and instruction in inclusive classrooms: A teacher's desk reference* (p. 53) by C. Deschenes, D. G. Ebeling, and J. Sprague, 1994, Bloomington, IN: The Institute for the Study of Developmental Disabilities. Adapted with permission.

- Teachers transfer knowledge intact to students.
- Children must master lower-level skills and knowledge before mastering higher-level skills and knowledge.
- Classroom process focuses on how teachers and individual students interact.
- Skills transfer across subject areas.
- The goal of teaching is to change student behavior.

In contrast to this traditional, reductionist view of teaching and learning, which results in an additive model of curriculum and classroom change, Pugach (1995) suggested that a generative model of change would more likely produce classrooms that can accommodate a broad range of student academic needs. This approach demands that the general education curriculum be redesigned, based upon the tenets that underlie much of the curriculum reform that is occurring in general education in the fields of literacy, mathematics, science, and social studies (Pugach & Warger, 1996). This curriculum reform movement rejects more traditional notions of teaching and learning, and embraces a constructivist approach built upon the following assumptions (Udvari-Solner & Thousand, 1996):

- For learning to occur, learners must construct meaning actively.
- Learning is the creation of meaning that occurs when an individual makes connections, associations, and linkages between new and existing learning.
- Learning is not quantitative, but rather is interpretive and requires social contexts of communities and communicative interchanges to develop.
- Learning is a cooperative, collaborative endeavor.
- The goal of teaching is to change students' cognitive structures.

Table 3 provides a comparison of how these approaches to learning and teaching are reflected in different classroom practices. It is noteworthy that as teachers move from a traditional to a constructivist perspective, changes in instruction are consistent with those called for by advocates of both general educational reform and of inclusive classrooms (Pugach, 1995; Tomlinson, 1995; Udvari-Solner & Thousand, 1996). Moreover, these changes are reflected in several of the approaches to curriculum and instruction that are currently being advocated for helping teachers support diversity in general education classrooms, including mul-

TABLE 3
A Comparison of Traditional and Constructivist Classrooms

Traditional Classrooms	**Constructivist Classrooms**
☐ Curriculum presented part to whole	☐ Curriculum presented whole to part
☐ Emphasis on basic skills	☐ Emphasis on big concepts
☐ Fixed curriculum	☐ Pursuit of student questions
☐ Use of textbooks and workbooks	☐ Use of primary sources of information
☐ Students viewed as blank slates	☐ Students viewed as active learners/thinkers
☐ Seek "correct" answers	☐ Seek student's point of view
☐ Assessment separate from learning	☐ Assessment and instruction interwoven
☐ Test knowledge of fixed content	☐ Student exhibitions and portfolios
☐ Students primarily work alone	☐ Students work primarily in groups

Note. Adapted from *In search of understanding: The case for constructivist classrooms* (p.17) by J. Grennon-Brooks and M. G. Brooks, 1993, Alexandria, VA: ASCD. Adapted with permission.

tiage grouping, multicultural education, interdisciplinary or thematic curriculum, and cooperative learning (Udvari-Solner & Thousand, 1996). In a similar vein, Pugach and Warger (1996) have noted that the movement to reform the academic curriculum in general education has many rich possibilities for supporting educators in their quest for worthwhile school experiences for all students; experiences that make difference commonplace for students with diverse academic needs who are educated in general education classrooms. Some of these developments include:

- Covering less material, but covering it in more depth.
- Focusing on the meaning of what is learned rather than the facts and figures.
- Teaching as the facilitation of student learning.
- Linking ideas across subject matter.
- Constructing rather than receiving knowledge; beginning where the students are and building on their prior knowledge.
- Creating an authentic activity orientation for learning where students work as part of a classroom community.
- Embedding the acquisition of basic skills into meaningful activities.
- Engaging students in cooperative work and problem solving.
- Closely aligning curriculum, instruction, and assessment.

Differentiating Instruction

As Tomlinson (1995) stated: "At its most basic level, differentiating instruction means 'shaking up' what goes on in the classroom so that students have multiple options for taking in information, making sense of ideas, and expressing what they learn" (p. 3). Tomlinson went on to note that differentiated instruction is *not* the "individualized instruction" that was in vogue in the 1970s, which attempted to provide something different for each of 25 to 30 students in the classroom, nor is it homogeneous grouping. In contrast to these ideas, effective differentiated instruction has the following qualities (Tomlinson, 1995):

1. *It is proactive.* Teachers assume that learners have differing needs, and therefore, lessons and units are planned to accommodate for these needs.
2. *It is more qualitative than quantitative.* Differentiating is not just giving students more or less work to do. Adjusting the quantity of work is less effective than adjusting the nature of the work to match student needs.

3. *It provides multiple approaches to content, process, and product.* The teacher in a differentiated classroom gives consideration to what students learn, how students make sense of ideas and information, and how students demonstrate that they have learned.
4. *It is student centered.* Classrooms thus operate based on the premises that: (a) students learn more when experiences are engaging, relevant, and interesting; (b) what a student learns should be built upon previous learning; and (c) not all students possess the same understandings.
5. *It is a blend of individual, small group, and whole class instruction.* Whole group instruction is used to develop common understandings and a sense of community, whereas small groups or individual work is used to address more particular student needs. Grouping is thus flexible and fluid.
6. *It is "organic."* This assumes that teachers will constantly learn about how their students learn, and adapt what they do in the classroom based on what they learn. Thus, differentiated instruction is a dynamic process. Teachers monitor what and how students are learning and adapt the classroom as needed to better meet student needs.

Tomlinson (1995) also noted that differentiating instruction is not simply giving a normal assignment to most students, while giving different assignments to students who are struggling or those who are advanced. In an effective differentiated classroom, the teacher thinks and plans in terms of "multiple avenues of learning," rather than in terms of normal and different. Thus, the classroom is designed and instructional plans are made that provide students with a rich range of alternatives for learning and demonstrating what they have learned.

Table 4 includes qualities that Tomlinson (1999) used to describe traditional classrooms, and those that differentiate instruction. These qualities reveal that differentiated classrooms are, in a large sense, places where effective instructional practices are used. For example, in a traditional classroom a single definition of excellence exists. In contrast, in a differentiated classroom excellence is defined, in large part, by individual growth from a starting point. The following section provides a discussion of effective instructional strategies that may be used to create a successful differentiated classroom.

TABLE 4

A Comparison of Traditional and Differentiated Classrooms

Traditional Classrooms	Differentiated Classrooms
☐ Student differences are masked or acted upon when problematic.	☐ Student differences are studied as a basis for planning.
☐ Assessment is most common at the end of learning to see "who got it."	☐ Assessment is ongoing and used to understand how to make instruction more responsive to learner needs.
☐ A single definition of excellence exists.	☐ Excellence is defined in large measure by individual growth from a starting point.
☐ Whole-class instruction dominates.	☐ Many instructional arrangements are used.
☐ Coverage of texts and curriculum guides drive instruction.	☐ Student readiness, interest, and learning profile shape instruction.
☐ Single-option assignments are the norm.	☐ Multioption assignments are frequently used.
☐ Time is relatively inflexible.	☐ Time is used flexibly in accordance with student needs.
☐ A single text prevails.	☐ Multiple materials are provided.
☐ The teacher directs student behavior.	☐ The teacher facilitates students' skills at becoming more self-reliant learners.
☐ The teacher solves problems.	☐ Students help other students and the teacher solve problems.
☐ The teacher provides whole-class standards for grading.	☐ Students work with the teacher to establish both whole-class and individual learning goals.

Note. Adapted from *The differentiated classroom: Responding to the needs of all learners* (p.16) by C. Tomlinson, 1999, Alexandria, VA: ASCD. Adapted with permission.

Employing Effective Instructional Strategies

Researchers and teachers have recently recognized that in many classrooms there is an overemphasis on "basic skills" for students with academic difficulties, "with the exclusion of any creative or cognitively complex activities, providing many students...with an unappealing intellectual diet" (Gersten, 1998, p. 163). This realization has led to an emphasis on ensuring that students who lack certain basic skills in reading and mathematics gain meaningful access to the general education curriculum, and are provided opportunities to solve problems and learn complex concepts across a range of content areas (Gersten, 1998). Indeed, one of the key features of the Individuals with Disabilities Act Amendments of 1997 is that students with disabilities be provided meaningful access to the general education curriculum, rather than a steady diet of "skills and drills. With recent advances, learning complex concepts across a range of content areas is an achievable goal for many students who lack basic academic skills (Gersten, 1998). In the following paragraphs, several methods that may be used to enhance student access to the general education curriculum are reviewed, including methods for organizing instruction, enhancing content routines, and strategy instruction (Fisher et al., 1996).

Methods for Organizing Instruction—Fisher et al. (1996) have noted that teaching devices may be used during instruction to "elaborate on important concepts, increase student involvement, or make instruction more explicit" (p. 132) for students with academic difficulties. These authors suggested that several approaches can be used to reach this goal, including the use of teaching devices such as graphic organizers and study guides. Fisher et al. described graphic organizers as methods that may be used to organize and visually display information for students, such as semantic maps or webs. These methods are used to consolidate "information into a meaningful whole so (students) see what is being taught is not a set of unrelated facts, terms, and concepts" (p. 132). A second, related method is the use of study guides prepared by the teacher. For example, Fisher et al. suggested that a teacher prepare an outline that lists the main ideas from the chapter, and present it to the student before reading the chapter in the text. Alternatively, a study guide can be provided after instruction, and include a list of questions that highlight critical concepts and vocabulary terms included in the chapter.

Methods for Enhancing Content—Fisher et al. (1996) have also suggested that methods for enhancing the content of instruction may be effectively used with students who have academic difficulties. These methods include routines to assist students with organization, understanding, and recall. An organization routine helps a student understand how content fits together into a "big picture." An understanding routine may be used to provide students with cues regarding the importance of certain content, while related methods such as mnemonic devices are used for recalling the content. Fisher et al. provided the following example of an organizational routine:

> Before teaching a lesson on the water cycle, a teacher may tell her students that they are going to study the water cycle to orient them to the topic, may ask her students questions about the water cycle to assess their background knowledge, may present a graphic organizer depicting the specific content to be learned, and may define new terms (e.g., evaporation, precipitation) to clarify students' understanding" (p. 137).

Similarly, when presenting information regarding newspaper editors' code of ethics, a teacher could use what Fisher et al. (1996) characterized as a recall enhancement routine. In using this approach, the teacher and students initially review the code of ethics and decide whether the information is important and should be remembered. If they agree that the information is important and should be recalled, the teacher might explain that the first letter from each of the four parts of the code (i.e., be Fair, Accurate, Impartial, and Responsible) can be isolated to form the acronym FAIR. In addition, the teacher might have the students construct the sentence, "Newspaper editors are obliged to be FAIR," to help them remember the code. Alternatively, the teacher might coconstruct appropriate mnemonic devices with the entire class.

Methods for Teaching Students Strategies for Learning—Gersten (1998) has noted that many students with academic difficulties are "unaware of the tricks of the trade that proficient learners use to organize their thoughts or plan an approach to solve complex problems" (p. 163). This has led to the development of approaches that may be used to explicitly teach students thinking and problem-solving strategies (Fisher et al., 1996). When these strategies are used, students typically are provided instruction related to a plan of action that may be used in pursuing a cognitive goal. This instruction often includes the use of scaffolds or cognitive strategies that are used by teachers to promote understanding of curriculum content. Instruction is provided until students use the routines that are provided regularly, and demonstrate understanding of when, where, and how to use the strategies (Gersten, 1998).

Intensive Instructional Approaches

Instituting many of the classroom innovations reviewed above will result in improved achievement for many students. However, for a small but significant group of students, improved academic achievement will necessarily entail the use of intensive, direct instructional approaches. Direct instruction refers to a systematic form of instruction that is presented very explicitly to assist students in learning basic skills and subject content. Considerable research with students from diverse cultural, linguistic, and low-income backgrounds, in addition to those with mild disabilities, have demonstrated significant academic gains utilizing direct instruction programs (Stein, Leinhardt, & Bickel, 1989). The essential elements of direct instruction include: priming relevant background information to ready students for learning, systematic presentation of new content or skills in a teacher-directed lesson, and ensuring student success through practice, review, and frequent feedback. (Gersten, Taylor, & Graves, 1999; Kameenui & Simmons, 1999).

The amount of background knowledge that students have can greatly influence their understanding and success with a new concept or skill. Many students may lack necessary background knowledge or they may know the information but be unable to recall or relate it to new concepts or skills. When using direct instruction approaches, teachers must give consideration to background knowledge by considering the preexisting information that is critical to new learning. Kameenui and Simmons (1999) suggested that before presenting new concepts and skills, teachers should consider the language background knowledge that students require. Specifically, they should consider the vocabulary and concepts used in the lesson and the component background knowledge. Such knowledge entails prerequisite skills that students need to complete a lesson.

The second element of direct instruction is explicit, systematic presentation of information by the teacher. Herein lies the heart of direct instruction—teacher presentation of a lesson that includes small incremental steps, explicit strategies, and a wide range of relevant examples. These characteristics are critical given that direct instruction approaches have been developed in response to research that has shown that many students who are at risk for academic failure often do not benefit from implicit learning experiences due to their lack of effective and efficient learning strategies (Stein et al., 1989). The provision of well designed, explicit instruction offers these students a clear framework for learning—one that highlights important concepts, provides effective strategies for learning and problem solving, includes demonstration and multiple examples, and encourages integration of big ideas across the curriculum (Kameenui & Simmons, 1999).

The final feature of direct instruction is active student responding, or ensuring student success through practice, review, and frequent feedback. To begin with, practice takes place during the lesson when the teacher questions all students and assesses understanding of lesson concepts and skills. Unison forms of responding and guided practice are often used to closely monitor student learning during instruction. This allows the teacher to adjust instruction by exploring student understanding and providing additional examples and demonstrations to ensure that students have met the lesson's objective. Once guided practice has sufficiently prepared students, practice and review next moves to an independent level where students complete oral or written practice until they achieve mastery of the concept or skill targeted by the lesson. Independent practice ensures a high level of student response, and also necessitates that the teacher monitor and provide frequent feedback about the accuracy of student performance. Simple repetition of information does not ensure mastery of new concepts and skills, so it is necessary for the teacher to provide review and practice opportunities that have four critical dimensions (Kameenui & Simmons, 1999):

1. Review and practice involve tasks a student performs with minimal assistance.
2. Review and practice are distributed over time.
3. Review is cumulative, and the information is integrated into more complex tasks.
4. Review and practice are varied to illustrate and promote application and generalization of knowledge and skills.

Thus, systematic review of previously learned material is provided, including review elements present in homework and tests.

Concepts and skills not mastered by students are retaught to ensure student success.

It is axiomatic that some students will acquire basic skills with much more facility if they are taught using explicit, direct instruction strategies. However, important issues have been raised about the quality of direct instruction programs, particularly those included within traditional compensatory education programs such as special education and Title 1. Concerns often center around descriptions of direct instruction as mechanistic and teacher controlled, with a narrow focus on discrete, basic skills that is often uninteresting and unmotivating to students. These points have been well captured in the debate about direct instruction reading programs in comparison to whole language programs for students with reading problems (Gersten & Dimino, 1993). In recent years, many professionals have begun to address these issues, as there has been an increasing emphasis on factors that have served to enrich direct instruction programs. This emphasis has occurred in relation to areas such as explicitness of instructional strategies, integration of basic skills into broad concepts and principles evident in the curriculum, and the promotion of higher-order cognitive skills (Gersten et al., 1999; Kameenui & Simmons, 1999). Moreover, these more recently developed programs have been designed to focus on higher-level cognitive skills, while presenting information in ways that are interesting and motivating for students.

MODEL PROGRAMS

The use of instructional and curricular strategies reviewed in this chapter will serve to prevent academic problems and improve achievement outcomes for many students in general education classrooms. But even with substantially improved general education instruction, some students will continue to require more systemic and comprehensive intervention. Many will require the full range of strategies reviewed, and not simply a single strategy applied in a specific academic area once the student has already begun to experience school failure. It becomes critical that as we move from a framework of remediating academic problems to preventing these problems, we consider systemic approaches that provide early intervention to a broad range of students. Some prevention and early intervention programs, for example the Carolina Abecedarian

Program, focus on providing services to children from birth to age 5, resulting in long-term effects on at-risk students' school success (Campbell & Ramey, 1994). Other early intervention programs focus on providing services and support to children in early elementary grades in an effort to improve reading and literacy skills and to prevent children from falling behind grade-level expectations and standards at the beginning of their school career.

In this section we review two examples of early intervention programs that focus on beginning reading skills, Reading Recovery and Success For All. Both of these programs involve the use of instructional and curricular strategies that have been proven effective with at-risk, low income, and linguistically diverse students. Adoption of either of these programs involves some form of systemic change in an elementary school, so that resources are concentrated on students in the early grades to support the acquisition of grade-level reading skills. While both programs have resulted in improved reading achievement for targeted students, differences in the programs exist with regard to students who receive services, the provision of individual and/or group interventions, the intensity and duration of the intervention services, and the training of teachers and other educators who provide intervention services to students. The components of each program are subsequently reviewed below, in addition to research findings on program effectiveness.

Reading Recovery

The Reading Recovery program (Clay, 1985) entails identifying students in the first grade who score in the lowest 20% in reading in their classroom. Once identified, students are pulled out of their classroom for 30 minutes of intensive, one-on-one daily tutoring. Tutoring typically lasts from 12 to 20 weeks, as the program is designed to provide short term, intensive reading intervention so that identified students can catch up to their first grade peers. The program emphasizes reading instruction in meaningful contexts, although decoding skills are taught directly. During tutorial periods, students are primarily engaged in four activities: reading new books, rereading familiar books, writing, and keeping a running record of their reading in context. Phonological awareness and decoding skills are taught through the various instructional activities, rather than in isolation. As Vaughn et al. (1997) have noted, Reading Recovery is not a packaged program and it requires few materials other than a pencil, paper, and books that are selected by the teacher. Books chosen for use in the program are at the students' reading level, and use natural language and predictable text.

The success of Reading Recovery is dependent upon the ability of teachers to meet the needs of identified students by selecting and adapting materials, assessing student skills, and providing effective instruction during individual tutoring sessions. Therefore, the program places heavy emphasis on the training and professional development of teachers who provide one-on-one tutoring to students. Reading Recovery teachers generally are certified teachers who have received intensive training for 1 year before implementing the program in their school. Once the program is implemented, critical knowledge and skills are reinforced through ongoing professional development activities with other Reading Recovery teachers.

Among early intervention programs in reading, Spear-Swerling and Sternberg (1996) describe Reading Recovery as "the most frequently cited, perhaps one of the most effective, and certainly one of the most controversial" (p.282). With regard to the effectiveness of the program, research studies have shown that students make significant gains in reading skills (Pinnell, Short, Lyons, & Young, 1986), a majority of students who are discontinued from the program possess grade-level reading skills (Heibert, 1994), and positive effects are maintained for 2 years after the intervention (Wasik & Slavin, 1993). Whereas these research findings clearly support the significant positive effects of Reading Recovery, there is controversy about the selection of students served by the program and the costs associated with training and implementation of the program. In much of the research, students who place in the lowest 10% of reading performance, namely those retained in first grade or receiving special education services, have not been selected for reading recovery interventions—nor have they been included in research studies. Thus, while there are achievement benefits to the program, some have argued that the potential benefits to students with the most significant reading problems are uncertain (Spear-Swerling & Sternberg, 1996). Additionally, attention has focused on the cost of the program, particularly in proportion to the limited number of students typically served through individual tutoring. A final consideration is that while intervention services provided through Reading Recovery do provide supports in the first grade, these supports are largely provided through a pull-out program that does not significantly alter or improve the quality of reading instruction provided to all students in general education classrooms.

Success For All

The Success for All program is a comprehensive approach to early intervention in elementary schools that serve at-risk students. The program is built upon two essential principles (Slavin, Madden, Dolan, & Wasik, 1996). First, learning problems should be prevented by providing the best possible classroom instruction. Second, when learning problems are manifested, interventions should be used that are "immediate, intensive, and minimally disruptive to students' progress in the regular program" (p. 377). A key program goal is to prevent learning problems and ensure the success of all children as they enter school, thereby reducing the number of children requiring special education services. The major components of Success For All include: a systematic reading program, one-on-one tutoring, regular assessment of reading progress, professional development for teachers, and a family support team. Given the multiple components of the program and the large number of schools that have implemented the Success For All model, it is not surprising that some schools have chosen to implement only some of the program components, while others have implemented the program in its entirety. Research studies have demonstrated that achievement outcomes are best when all components of the program are implemented; this is particularly true in schools that serve the most impoverished student populations (Ross, Smith, Slavin, & Madden, 1997).

Several components of the Success For All program concern curriculum and instruction. One component involves regrouping students for reading and language arts instruction across classes and grade levels to ensure that groups comprise 10 to 20 students with a similar reading level. These homogeneous, cross-grade ability groups meet each day during a designated 90-minute time block for reading and language arts instruction. Classroom teachers and tutors are used as group instructors to reduce class size. Similar to Reading Recovery, Success For All also provides one-on-one reading tutoring for 20 minutes per day. While first grade students have priority to receive tutoring, other students in second and third grade may also be tutored. These students are selected based on their need for additional reading support and the availability of tutors. Tutoring sessions typically consist of rereading familiar stories, going through a drill on letter sounds, reading stories with controlled vocabulary, and writing activities (Vaughn, et al., 1997).

The curriculum for Success For All consists of instruction in phonics, reading comprehension, and listening comprehension. During kindergarten, the program emphasizes the development of basic language skills and letter/sound recognition skills. In first grade, an approach based on sound blending and phonics is used, with an emphasis on oral reading to partners and the teacher. Finally, in grades 2 and 3 cooperative learning is used, a form of Cooperative Integrated Reading and Comprehension (CIRC), in which students engage in activities related to instruction in story structure, prediction, summarization, vocabulary building, decoding practice, writing, and direct instruction in reading comprehension skills (Slavin, 1999). Tutorial work and group instruction utilize the same curriculum, thus the tutor works to support student success on the material presented in class.

Research findings on Success For All have been based upon numerous studies that have looked at individual schools, multiple sites across various states, and a range of student populations. Findings show (Slavin et al., 1996):

- Significant improvement in reading achievement as compared to students in control schools.
- Significant reduction in rates of grade retention, and special education referral and placement.
- Increased impact on student reading achievement in schools that implement the program for successive years.
- A continuing trend of higher reading achievement levels through elementary grades when compared to control students.

The critics of Success For All generally focus on a single factor—the high cost of the program. Although this is a consideration in program adoption, it is clear that Success For All is a large-scale, comprehensive intervention program that has been shown to be highly effective in reducing academic failure and ensuring that a large majority of students have grade-appropriate literacy skills. In contrast, Reading Recovery provides a small-scale, early intervention program that has also been shown effective for a group of students who are at-risk for academic failure. Clearly any systemic change will require an initial cost to restructure schools for more effective practices that can result in improved academic outcomes for a diverse range of students. These initial costs are in fact worth it—if future costs for remedial and compensatory education services for many students can be prevented. As Table 5 illustrates, the components of Success For All and Reading Recovery address many of the strategies presented earlier in this chapter. The decision to adopt one or the other of these programs likely hinges on the interest and ability of a school to engage in a school restructuring program that involves minor changes and serves a few children (Reading Recovery), or a program that involves significant change in general education instruction and serves all the students in a school (Success for All).

CONCLUSION

As students entering public school classrooms continue to expand our notion of diversity, they place ever increasing demands on educators and school support programs that originally were designed to provide only remedial support to a limited number of children. Instituting a new framework focused on early prevention of academic failure requires changes in our ideas about student learning, the content and quality of general education instruction, and the design and delivery of interventions and student support services. As educators begin to reflect on students' needs and the changes necessary within their local school community to adopt a prevention framework, consideration must be given to empirically supported programs and interventions that enhance general education curriculum and instruction. However, just as critical as the focus on empirically supported innovations, is the need to consider issues of facilitating teacher adoption of innovations and enhancing the content and quality of general education curriculum and instruction. A wide range of options may be considered when improving instruction and support for students who fail to develop adequate academic skills through traditional instructional methods and supports. Our present focus needs to switch from generating new strategies to demonstrating how effective innovations can be *adopted* and *used* within general education classrooms to ensure the success of all students.

TABLE 5

A Comparison of Reading Recovery and Success For All Programs

	READING RECOVERY	SUCCESS FOR ALL
STUDENT GROUPING PATTERN	☐ Individual tutoring	☐ Individual tutoring ☐ Cross-grade ability grouping
CURRICULUM	☐ Tutoring not coordinated with classroom reading instruction	☐ Revision of general education reading curriculum ☐ Tutoring coordinated with classroom reading curriculum
SELECTED INSTRUCTIONAL STRATEGIES	☐ Differentiated instruction ☐ Intensive instruction ☐ Strategy instruction ☐ Adapting instruction to student needs	☐ Differentiated instruction ☐ Intensive instruction ☐ Strategy instruction ☐ Cooperative learning ☐ Adapting instruction to student needs
INTENSIVE INSTRUCTION	☐ Provided 30 minutes per day for 12 to 20 weeks ☐ First graders selected based on low reading skills	☐ Provided 20 minutes per day, as long as needed ☐ First graders with low reading skills given priority; second and third graders with low reading skills as determined by availability of tutors
TEACHER SUPPORT FOR INNOVATION	☐ Teachers provided a year of training prior to program implementation ☐ In-service with other RR teachers as needed	☐ Teachers provided 3-day in-service prior to program implementation ☐ Ongoing instructional support from SFA [Success for All] program facilitator

RECOMMENDED RESOURCES

Kameenui, E. J., & Simmons, D. C. (1999). *Towards successful inclusion of students with disabilities: The architecture of instruction.* Reston, VA: Council for Exceptional Children.

This monograph provides an introductory overview of general principles of adaptation of curricular materials. Specific applications to beginning reading and expository writing are included.

Slavin, R. E., Madden, N. A., Dolan, L. J., & Wasik, B.A. (1996). *Every child, every school: Success for all.* Thousand Oaks, CA: Corwin Press.

This offers a complete overview of the Success For All program, including program design, sample curriculum materials, tutoring program, and a comprehensive summary of research.

Tomlinson, C. (1999). *The differentiated classroom: Responding to the needs of all learners.* Alexandria, VA: Association for Supervision and Curriculum Development.

Through a blend of research and practice examples, the author provides a framework for creating classroom learning environments that support differentiated instruction. Chapters describe individual lessons, units of instruction, and curriculum in elementary and secondary classrooms.

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CHAPTER 6:

Promoting Successful School Completion

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In the past decade, students' engagement in school and learning has emerged as the "bottom line" across hundreds of dropout prevention and recovery programs in the United States (Grannis, 1994). Successful programs help students and families who feel marginalized in their relations with teachers and peers to become members of the school community. "School dropout" and "school completion" are considered two sides of the same coin; however, school completion is the preferred term given its positive orientation. The critical issue for student engagement is the degree to which there is a person-environment fit for the student. The goal in working with students who are at risk for educational failure (i.e., dropout) is twofold: acquisition of academic and social skills and fostering a personal investment in learning. Increasing students' engagement and enthusiasm for school is much more than simply staying in school and, thus, much more than the dropout problem—it involves supporting students to meet the defined academic standards of the school, as well as underlying social and behavioral standards. If students are engaged with school and learning, over time they should not only graduate but also demonstrate academic and social competence upon school completion.

Dorn (1996) reminded us that the first high schools were not designed to educate the masses, but rather an elite group of youngsters who came prepared to learn. Instructional strategies were predominantly reliant upon lecture and recitation. It was not until the late 1960s that all youth were expected to finish school with more than an eighth-grade education. By the 1980s, it became clear that it was no longer economically feasible for high school "dropouts" to support themselves and a family without the skills and credentials of a high school diploma. One unfortunate side effect of using the term "dropout" to define the problem was that it encouraged a focus on the student in isolation from the contextual factors that contribute to the problem—the interactions of schools, community, and family.

In September 1989, the 50 governors of the United States met for a historic education summit in Charlottesville, Virginia to formulate a set of national education goals. They agreed that "high school graduation" should be included and set a goal to have the "high school graduation rate increase to at least 90 percent" by the year 2000. By January 1990, the official press release on the education summit shortened the title for Goal 2 to "School Completion" rather than "High School Graduation," and two objectives were added. The first objective recognized that a major challenge for reaching Goal 2 was the dropout problem: "The Nation must dramatically reduce its dropout rate, and 75% of those students who do drop out will successfully complete a high school degree or its equivalent" (National Educational Goals Panel, 1995). The reference to "its equivalent" opened the door to a wide range of alternative ways to complete school. Also, this objective provided a window of opportunity to address the more insidious problem of students remaining in school but not "successfully completing school" because they were not earning the credits to graduate or were not passing the exams required for them to earn a diploma. The second objective highlighted another critical issue—the elimination of the gap in school completion rates for different segments of the school-age population. After considering many alternatives, the National Education Goals Panel (1991) determined that the measures of progress toward Goal 2 should include "the number of recipients of regular diplomas, other diplomas, attendance certificates, and GED equivalency certificates" (p. 12). Clearly, a broad definition of successful high school completion was considered important.

According to the 1998 National Education Goals Report, nine states have increased the percentages of 18- to 24-year-olds who have a high school credential, and 15 states have already achieved a 90% high school completion rate. However, disparities in high school completion rates between White and minority 18- to 24-year-olds did not improve between 1990 and 1996.

School psychologists have recognized that increasing school completion rates is a complex process that requires attention to both personal characteristics of students and school practices. In a recent study of school psychologists' perceptions of national priorities for dealing with the dropout problem, Egyed, McIntosh, and Bull (1998) found that school conflict (e.g., student conflict with school administrators and teachers) was ranked as the primary cause that should receive national attention. Particularly noteworthy was the identification of student alienation from school as a critical concern.

COMPLEX PHENOMENON OF DROPOUT

The path to dropping out of school is complex and multidimensional. In an ethnographic follow-up study of urban adolescents who had not completed school, Fine (1986) found youth who (a) were critical of school and showed pride in the decision to leave for an alternative option; (b) had to disrupt their education to attend to family crises; (c) offered no real rationale for leaving school, but expressed hopelessness; and (d) indicated that they had been pushed out. Various labels and terms have been used to categorize dropouts, including:

- ☐ *Educational mortality*: used to describe those who fail to complete a program;
- ☐ *Capable dropouts*: youth whose family socialization is inconsistent with school demands;
- ☐ *Disaffiliates*: youth who no longer wish to be associated with school;
- ☐ *Pushouts*: youth who are expelled or suspended;
- ☐ *Stayouts*: youth who never return after dropping out the first time;
- ☐ *Stopouts or returnees*: youth who return to school, usually in the same academic year.

Students who decide to drop out should be differentiated from students who are involuntarily suspended or expelled (Wagner et al., 1991). Dropping out of school is generally viewed as the student's decision; however, it must be understood in relation to support provided by family and school (Ekstrom, Goertz, Pollack, & Rock, 1986). For example, Wehlage, Rutter, Smith, Lesko, and Fernandez (1989) have shown that educational engagement and school membership directly influence students' decisions about leaving school. Educational engagement, defined as the "psychological investment required to comprehend and master knowledge and skills explicitly taught in school" (p. 177), is seen as the result of interaction between students, teachers, and the curriculum. Although learning cannot begin without student involvement, parents and teachers must support students' sustained effort in schoolwork. Also, school membership, defined as "a social-psychological state or outcome in which a student is attached, committed, involved and has a belief in the norms, activities and people of an institution" (p. 117), underscores the importance of support processes of the school. Students are likely to view school activities as legitimate and valuable if they are invested in those activities, and involved students are less attracted to competing out-of-school options.

Tremendous variability in the measurement of dropout rates can be found across school districts and research studies (National Center for Education Statistics, 1993). Three types of formulas are used most frequently in education: event, status, and cohort rates. The event rate reflects incidence; it indicates how many students are dropping out or completing school from year to year. The status rate reflects prevalence; it indicates the magnitude of the problem in a particular population and is typically larger than the event rate. Indicating how many students eventually drop out or graduate for a specific class of students, the cohort rate is considered to be the most accurate. Event rates are typically smaller than cohort rates. For example, a large urban city could have an event rate of 10–15%, and a cohort rate of 25–50%. Both numbers are correct, but they represent different time spans or different slices of the student population. While the status rate is a measure at one point in time, the cohort rate reflects a measure over an extended period of time.

In this chapter, we provide background information on issues for understanding the complex phenomenon of school dropout. This is followed by a synthesis of effective school completion program components and conclusions from intervention studies. Next, effective practices in model programs and an empirically supported school engagement model, referred to as Check and Connect, are described. The chapter is concluded with a review of implications for practice and a list of resources compiled for future reference.

FRAMING THE ISSUES

Importance of School Completion

The costs and consequences of dropping out are high for both the individual and society. Youth who do not complete high school are more likely to experience unemployment, underemployment, incarceration, and long-term dependency on social services. Approximately 47% of high school dropouts are employed, compared to 64% of high school graduates not in college (National Center for Education Statistics, 1995). Average annual income for high school dropouts is approximately $6,415 less per year than for high school graduates (Coley, 1995). Students who drop out of school are two to four times more likely than graduates to be arrested just a few years after leaving school (Wagner, D'Amico, Marder, Newman, & Blackorby, 1992).

Costs to society are increasing. Four out of five federal prisoners have not completed high school, at an annual cost of approximately $51,000 per person for incarceration (U.S. Select Committee, 1992). The estimated annual cost of providing for dropouts and their families is $76 billion a year, close to $800 annually per taxpayer. Although a high school diploma does not guarantee a positive and productive niche in life, the diploma is a gateway to postsecondary education and entry-level employment—opportunities that reduce the likelihood youth will engage in activities commonly associated with negative life outcomes.

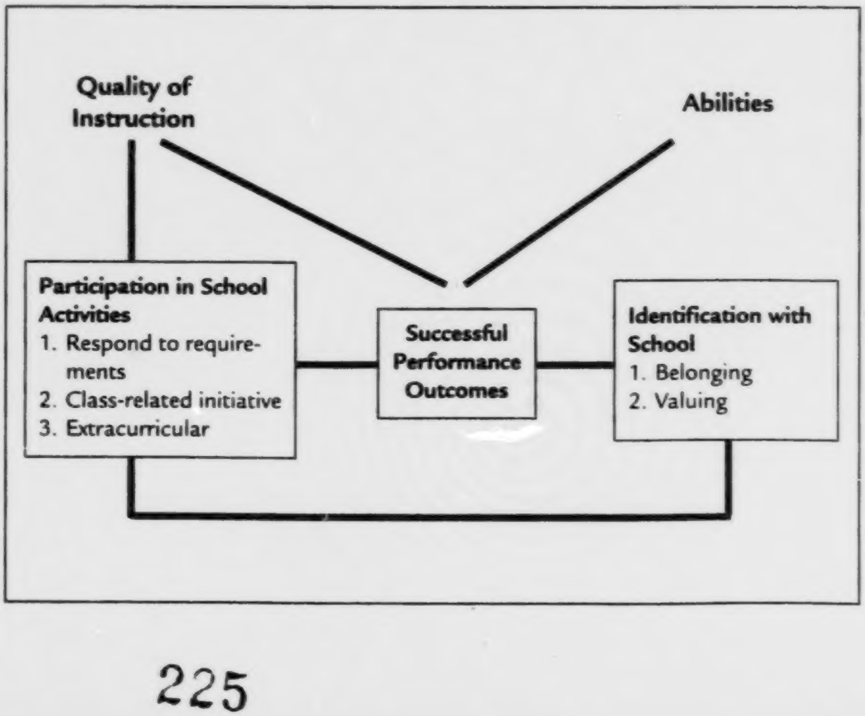
According to the National Center for Education Statistics (1999), 3.6 million youth 16–24 years old left school in 1997 before earning a diploma. Seventeen percent of adults over age 25 have not completed high school. Furthermore, segments of America's youth are dropping out of school at rates that are two to five times higher than the national average. Clearly there is reason for alarm because the postschool outcomes associated with early school withdrawal have become considerably more negative. For some students, alternative ways to complete high school are essential.

In addition to the traditional high school route (meeting requirements from grades 9 through 12, and sometimes passing additional tests required by a district or state), there are at least four other ways to "complete school," including General Educational Development (GED) programs, alternative or charter schools/programs, adult basic education programs, and certificate of completion/attendance programs. These alternatives reflect both mandatory placement options and students' choice for nontraditional educational programs, with the fourth option being designated almost exclusively for students with disabilities who receive special education services. These alternatives are neither well known nor commonly thought of when one is talking about high school completion. Contributing to our lack of knowledge is an amazing lack of data about how many individuals complete their K-12 schooling requirements in these alternative ways, and who these individuals are.

Theoretical Framework for Understanding Dropout

Finn (1989, 1993) proposed that the act of dropping out should be perceived as a process of disengagement from school, rather than an instantaneous decision or singular event (see Figure 1). His basic premise was that consistent student participation in school activities over time is essential for positive outcomes to be realized and subsequently for students to identify with school and school-related goals. He found that the majority of students who dropped out were expressing an extreme sense of alienation or disengagement that was preceded by several behavioral indicators of withdrawal and unsuccessful school experiences. Finn proposed two primary indicators of school engagement: participation and identification.

Figure 1. Finn's Participation-Identification Model of School Engagement (1989)


Quality of Instruction
Abilities
Participation in School Activities
1. Respond to requirements
2. Class-related initiative
3. Extracurricular
Successful Performance Outcomes
Identification with School
1. Belonging
2. Valuing

Participation, a behavioral indicator of engagement, emphasizes the importance of a student's involvement in school activities. Participation is based on four levels of behavioral antecedents.

- Level 1—Responding to requirements: refers to formal learning skills, such as attending school, arriving at class on time, paying attention to a teacher, and completing assigned work.
- Level 2—Class-related initiatives: refers to an expressed enthusiasm beyond the required coursework such as staying after class to talk with the teacher or participating in subject-related clubs.
- Level 3—Extracurricular activities: includes participation in social, recreational, or athletic type after-school or before-school activities.
- Level 4—Decision making: refers to participating in school governance.

Identification with school, the psychological aspect of engagement, is defined as a student's internalized conception of belonging to school and valuing success in school-relevant goals. Identification is often described in the positive sense as affiliation, connection, attachment, commitment, or bonding. Terms used to describe a lack of identification include alienation, disengagement, and withdrawal.

In a series of studies, Finn and colleagues demonstrated that student participation (in the classroom and outside the regular curriculum) is significantly and positively associated with academic achievement for elementary students (Finn & Cox, 1992) and middle school students (Finn, 1993) across race and gender. Furthermore, Finn, Pannozzo, and Voelkl (1995) showed not only a positive, significant relationship between fourth graders' participation in classroom activities and academic achievement, but also a negative, significant relationship between their disruptive and withdrawn-inattentive behaviors and academic achievement as measured on both norm-referenced and criterion-referenced tests. Finally, Finn and Rock's (1997) examination of the National Education Longitudinal Study (NELS) data for 1,800 low-income African American and Hispanic students across grades 8–12 revealed that participation differentiates at-risk students who are academically successful from their less successful counterparts. Specifically, school completers with academic success (resilient students) engaged significantly more often in a distinct set of school behaviors related directly and clearly to learning than school completers with poor academic performance (nonresilient completers) or dropouts. These engagement behaviors included coming to school and class on time, being prepared for and participating in class assignments, expending necessary effort to complete class assignments and homework, and avoiding being disruptive in class. Differences among the three groups in school engagement remained significant when the effect of home background (i.e., family composition, income) and psychological characteristics (i.e., self-esteem, locus of control) were statistically controlled.

Who is Most Likely to Drop Out?

The answer to this question lies with the types of variables associated with dropping out. As presented in Table 1, enrollment status for students is affected by educators' ability to influence the variable (alterable, unalterable), the context with which the variable is associated (student, family, peers, school, community), and the degree to which the variable reduces (risk

factor) or increases (protective factor) students' engagement with school. Variables associated with dropping out range from status or unalterable variables, such as socioeconomic status of the student body and surrounding community, to alterable variables that can be readily influenced by educators, families, and students, such as discipline policies and home-school communication practices. Also, variables associated with dropping out can be viewed as risk factors (e.g., grade retention in middle school) or as protective factors (e.g., smaller class size in middle school).

Unalterable Variables. Most research on school dropouts addresses the question of "who drops out," and most responses focus on status risk variables for students and families. Research on school dropouts is limited because isolated variables, or at most, the correlation among two or three variables are typically investigated. Only a few investigations have described the influence of multiple variables on students' exit status from school, incorporating the interacting influences of home, school, and community (Ekstrom et. al., 1986; Wehlage et. al., 1989). Rosenthal's (1998) recent review of non-school correlates of dropout corroborates the finding that status characteristics—those marker variables that place a student at potential risk for dropout—are well described.

TABLE 1

Types of Variables Associated with Dropping Out

Amenability	Predictor Variable	Risk Factor		Protective Factor
Unalterable				
· student	developmental disability	LD or EBD	vs.	none
· family	family structure	one parent	vs.	two parents
· peers	IQ	low IQ	vs.	high IQ
· school	socioeconomic status	low SES	vs.	high SES
· community	geographic features	SW urban	vs.	NE suburban
Alterable				
· student	attendance	sporadic	vs.	regular
· family	supervising students' free time	rarely	vs.	frequently
· peers	identification with school	alienated	vs.	belongs
· school	monitoring students' progress	rarely	vs.	frequently
· community	support services	inaccessible	vs.	accessible

Note. This table is not meant to be an exhaustive list of variables.

Research has found that a disproportionate number of youth who do not complete high school live in poverty, in families headed by a single parent, from Hispanic, African American, and Native American backgrounds. According to data reported by the National Center for Education Statistics (1996), 22% of Native American youth, 14% of Hispanic youth, and 10% of African American youth had not completed high school compared to 7% of European American youth. Also, 21% of youth from low-income families were dropouts, compared to 11% of youth from middle-income families and 4% from high-income families.

Students most likely to drop out attend large urban schools, particularly in the southern and western regions of the country (Ekstrom et al., 1986; National Center for Education Statistics, 1999). Schools of over a thousand students are frequently cited as being associated with higher dropout rates (Nichols & Nichols, 1990). Approximately 75% of the dropouts attended schools at or below the median level of mean socioeconomic status for the entire distribution of schools (Rumberger, 1995).

Dropout rates among students with disabilities are higher than among peers without disabilities (Marder & D'Amico, 1992; Wolman, Bruininks, & Thurlow, 1989). Forty-three percent of a national cohort of special education students did not complete high school, compared to a four-year dropout rate of 24% among an equivalent general education cohort (Wagner et al., 1991). Furthermore, the Twentieth Annual Report to Congress indicated that only 29% of all students with disabilities, out of the 74% who exited the educational system between 17 to 21 years of age, graduated with a diploma or certificate of attendance (U.S. Department of Education, 1999). Cohort dropout rates indicate that 55% of youth labeled emotionally disturbed and 36% of youth labeled learning disabled left school early, placing these students among the highest risk of all special education students (Wagner, 1995). Also, students with disabilities from households with an annual income of less than $25,000 were significantly more likely to drop out (Wagner et al., 1991).

Although status risk variables suggest which students and schools are at greater risk for failure, educators are not in a position to alter these variables—nor are they highly predictive of students' exit status. In a recent analysis of the NELS data, Rumberger (1995) affirmed that the predicted odds of dropping out for Black, Hispanic, and Native American students were no different than those for White students when differences in socioeconomic status were controlled.

Alterable Variables

Less, but more recent, research has examined the effect of alterable variables on school completion. Behaviors and attitudes that reflect students' connection to and identification with school as well as the practices and policies used by schools and families to support children's education are alterable variables.

Attendance and academic performance are two of the more powerful alterable predictors of students' exit status. Attendance is a logical correlate in part because patterns of absences are by definition what constitute a dropout. Rumberger (1995) reported that a one-point higher grade point average was associated with a reduction in the predicted dropout rate by more than 70% and a one-standard-deviation increase in test scores correlated with a decrease in dropping out by more than 65%. Students who are absent more than 25% of the school year were three to five times more likely to drop out of school. Also, when achievement and background characteristics (i.e., socioeconomic status, gender, and ethnicity) were held constant, grade retention increased a student's chance of dropping out by 27% compared to those not retained (Grissom & Shepard, 1989). Being over age for grade paired with a low cumulative grade point average correctly identified 73% of students who later dropped out of school (Taite, 1990). Furthermore, students who repeat two grades have a probability of dropping out that is nearly 100% (Dawson, 1998).

School district–based studies also suggest that grades and academic performance account for a significant portion of the variance associated with students' exit status from school (Frazer & Ligon, 1991; Kortering, Horing, & Klockars, 1992). For example, analysis of cumulative records of Chicago Public School students showed that absences and academic grades for three consecutive years ending in the fourth grade identified 87% of the male high school dropouts and 88% of the female dropouts (Hess, Lyons, Corsino, & Wells,1989). Beginning in second grade and continuing every year after, students who eventually dropped out were absent over 1 to 2 weeks more per year than were students who eventually graduated. Consistently, early high school withdrawal can be predicted from relative standing on academic performance in elementary grades. For example, Hooker and Weatherman

(1990) found that dropouts in a rural public school district in the Midwest had scored in the bottom 30th percentile on academic achievement tests in grades 3 through 6 compared to average scores in the 60th percentile of classmates who remained in school.

Evidence exists for the importance of variables described in Finn's (1989) participation-identification model. First, extracurricular options within school (e.g., sports, school governance, or academic clubs) and competing activities outside of school (e.g., employment, marriage, or parenthood) are correlates of dropping out of school. Raber (1990) found that students from an Eastern school district who remained in school were more than twice as likely to have participated in nonathletic extracurricular activities (33%) than were students who had dropped out (14%). Two percent of youth with disabilities who belonged to a school or community group dropped out, compared with an 8% dropout rate among youth who reported no such group affiliation (Wagner et al., 1991). About 25% of boys left school because they were offered a job and chose to work (Ekstrom et al., 1986) and 20–25% of girls left school to get married or because of pregnancy (National Center for Education Statistics, 1996).

Second, students who are described as exhibiting problem behaviors are highly likely to drop out. Using incidences of suspension or expulsion, job termination, or arrests, Wagner and colleagues (1991) found that 28% of students with disabilities who had disciplinary problems dropped out of school, compared with a 4% dropout rate among students with disabilities who did not have disciplinary problems. Furthermore, students who had disciplinary problems, higher absenteeism, failing grades, and no participation in school activities were highly likely to drop out (Rumberger, 1995).

Third, a significant correlate of dropping out is a student's sense of alienation. Because most data on student alienation from school are actually collected after students have dropped out, it is unclear whether these variables are true antecedents or subjective feelings in response to being out of school. Nonetheless, McMillen and colleagues (National Center for Education Statistics, 1993) indicated that 24% of youth who had dropped out reported that they did not belong in school and 43% of dropouts reported that they did not like school. Approximately 25% of youth with disabilities reported dropping out because they did not like school or special education (Wagner et al., 1991).

School and family have received more recent attention in the literature as explanatory reasons for student alienation from schooling and learning (Egyed et al., 1998). Effective schools for students at risk of school noncompletion are supportive communities for learning and include the appropriate instructional conditions and social and human resources needed to establish and maintain a learning community (Kruse, Louis, & Bryk, 1994; Newmann, 1994). Similarly, Bryk and Thum (1989) found that schools with a committed faculty, an orderly environment, and an emphasis on academic pursuits were associated with lower rates of absenteeism and dropping out. With respect to size of school, findings suggest that "smaller is better." In comparison with larger schools, Finn and Voelkl (1993) demonstrated that students in smaller schools participate more actively, attend more regularly, and feel the environment is warmer and more supportive. Characteristics of schools that have greater holding power include small size, fair discipline policies, caring teachers, high expectations, and opportunities for meaningful participation.

Studies have examined student exit status in relation to these school practices and policies; however, they have done so in a piecemeal fashion. In examination of the exclusionary practices of Boston middle schools, Wheelock (1986) identified four school policies that were associated with higher school dropout rates in the Boston area: discipline and suspension, attendance, nonpromotion, and higher academic standards. Depicting students' process of disengagement as a merry-go-round cycle of out-of-school suspension, repeating grades, in-school truancy (i.e., cutting classes, disruption), poor attendance, and school failure and low teacher expectations, she argued that school policies and practices should be evaluated in regard to their potential to encourage or discourage school completion. Several studies echo Wheelock's findings. Wehlage and Rutter (1987) found that dropouts' perceptions of school were consistently more negative in regard to the effectiveness and fairness of school discipline when compared to non-college-bound stay-ins. Similarly, Tuck (1989) reported that 17% of dropouts in the Washington, DC school system indicated having left school because of suspensions, expulsions, and involuntary transfers to alternative and adult education programs. Finally, Kortering and Blackorby (1992) reported that youth with emotional/behavioral disabilities who dropped out were five times more likely to have been administratively transferred to at least one other school than were similar students who graduated. Changing schools has been found to increase the odds of dropping out by as much as 23% for each school move (Rumberger, 1995; Wood, Halfon, Scarla, Newacheck, & Nessin, 1993). In contrast, there is evidence that school factors can help students by providing individualized attention or making school more relevant. For example, in their longitudinal study of special education youth, Wagner and colleagues (1991) found significantly lower dropout rates for students who participated in vocational education, tutoring, or personal counseling.

With respect to student exit status and family practices, Rumberger (1995) found that level of parental academic support, supervision, and educational expectations were significant predictors of dropout rates. In addition, a longitudinal study of youth in the San Francisco Bay area indicated that four salient family practices influenced dropout behavior (Rumberger, Ghatak, Poulos, Ritter, & Dornbusch, 1990). In comparison to two groups of youth who remained in school, dropouts: (a) reported significantly higher proportions of decisions made on their own and a lower proportion of decisions made by their parents, (b) were more likely to live in households characterized by a permissive parenting style, (c) had parents who were less involved in their school activities, and (d) experienced higher levels of parental punitiveness, including negative emotional reactions to poor grades. Statistically significant correlates of school completion include the presence of study aids, high maternal educational aspirations for children, parental involvement in selecting high school curriculum, and a trusting, positive family-school relationship (Comer, Haynes, Joyner, & Ben-Avie, 1996; Ekstrom et al., 1986).

Reasons for Dropping Out and Staying in School

Several researchers have interviewed youth about factors influencing the decision to drop out of school (Tidwell, 1988); fewer have asked questions about reasons for reenrolling or for continued attendance. Jordan, McPartland, and Lara (1999) categorize explanations for dropping out of school as push or pull effects. Push effects (e.g., suspension, assigning failing grades for excessive absences) describe situations or experiences in which students are unable to cope with policies and practices within the school environment. These school-based strategies exacerbate rather than ameliorate failure and dropout. Pull effects, on the other hand, refer to external factors that undermine an emphasis on schooling for the student.

Reasons for Leaving School—Students' reasons for leaving school closely resemble behavioral indicators of student withdrawal as well as push and pull effects. Reasons include: (a) problems getting along with teachers, (b) getting suspended or expelled, (c) unfair discipline policies, (d) bad grades and doing poorly in school, (e) not liking school, (f) peers dropping out, (g) inability to get into desired programs, (h) pregnancy and/or teenage parenthood, (i) need to support family by working or providing day care to younger siblings, and (j) being offered other options, such as a job or getting married (National Center for Education Statistics, 1993). Using data from the National Educational Longitudinal Study of 1988, Jordan et al. (1999) found that push factors were most important for predicting a student's decision to drop out. Approximately half of the 25,000 students in 1,000 schools reported not liking or failing school, whereas only 7% indicated that they needed to help support their families and 17% indicated that they had to get a job. Although school-related factors were the most frequently cited reasons for dropping out regardless of gender or ethnicity, racial-ethnic differences within and across each gender group were found. For example, the mean rates for African-American boys and girls who were suspended/expelled and had friends who dropped out were considerably higher than those for Latino and White boys and girls. Also, student attitudes have surfaced as critical. When asked what changes could be made to help them return to school, youth in special education who had dropped out placed greater emphasis on the need to change their own attitude or work habits than they did on changes in school and teacher practices (Kortering & Braziel, 1999).

Reasons for Staying with School—Floyd (1997) found that three primary protective mechanisms contributed to the academic success of 20 African American high-achieving 12th-graders from impoverished backgrounds: "A supportive, nurturing family and home environment; the youths' interactions with and the involvement of committed, concerned educators and other adults in their lives; and the development of two key personality traits—perseverance and optimism" (p. 184). Perseverance referred to students' willingness to work hard in the face of barriers and optimism to a firm belief that academic efforts would pay off. Clearly, these mechanisms are consistent with factors that promote student engagement.

When youth with disabilities were asked about recommendations for keeping students in school and preventing dropout, they suggested changes involving teachers, administration, curricula, and school activities (Kortering & Braziel, 1999). For example, youth suggested that teachers could have a more positive attitude and treat students fairly, improve teaching, and use a more relevant curriculum (e.g. current textbooks, use of computers). Administrators were advised to make changes in the discipline policy. Responses from at-risk youth attending alternative schools have suggested that high schools increase their holding power by developing positive, respectful relationships between staff and students (Lehr, 1999). Students made the following suggestions for teachers: Pay more attention to students, encourage students, relate to student interests, talk with students, form relationships, and do not look upon students as failures. Interestingly, Lehr also found that students' personal attitudes played an influential role in decisions to return to school. Specifically, returning students noted that they felt more confident and motivated to try again, and that they recognized the importance of getting a diploma.

Reasons are similar for students who maintain continued enrollment at alternative schools. Tuck (1989) found that continued attendance was related to greater satisfaction with the learning experience (social environment, instructional climate, school courses, and school rules), and that reasons for dropping out of alternative programs were related to external stressors (i.e., pull factors), not dissatisfaction with the educational programs. Similarly, students attending alternative schools in Minnesota revealed that continued attendance was influenced by student-teacher relationships, school structure and climate, and issues related to students' autonomy and sense of control (Lange & Lehr, 1997). Nearly 90% of the students who completed the survey indicated that they continued to attend school because staff members treated them like individuals, and that they received attention for personal problems in the context of respectful teacher-student relationships.

EFFECTIVE INTERVENTION STRATEGIES

A report from the APA Task Force on Dropout Prevention (Hess, 1997) revealed that research on dropout prevention is overwhelmingly predictive or descriptive in nature. Of 121 studies reviewed, program evaluation data were present in only 20 (16.5%). Also, 90% of the research focused on secondary students, with most attention given to high school students. Studies involved participants from both genders and various ethnic backgrounds and investigated demographic, behavioral, and psychological predictors. The current state of this research database should not imply that numerous programs and strategies have not been implemented in an effort to stem the rate of dropout for youth in today's schools. However, it does point to the lack of empirically supported strategies and programs that can be used to guide our intervention and prevention efforts.

Components of Effective Programs

Table 2 presents lists of components of programs that have been summarized in the literature as important for dropout prevention and/or school completion for students. In general, the lists have been generated with secondary-level students as the target population; in some instances, there is reference to the need to intervene earlier, even earlier than the middle school years. Despite the rich descriptions, efficacy data for many programs are incomplete or absent (Hamilton, 1986; West, 1991). However, it is generally accepted that "no single approach will work for all youth who drop out" (Institute for Educational Leadership, 1986, p. 33), and that understanding the characteristics of successful programs is a necessary first step for designing interventions.

Some alternative schools may also be considered examples of more comprehensive programs designed to prevent dropout and to reengage students in schooling. Many states have legislation allowing students to attend alternative schools if they are at risk of school failure. For example, Minnesota, a leader in public school choice, allows students who meet various risk criteria to attend any alternative school or Area Learning Center statewide. One of the rationales for establishing these kinds of programs is that if students placed at high risk for dropping out are provided a choice among educational programs, they are more likely to find a program that meets their needs and to complete their high school education (Neuman, 1991). We have known for over a decade that successful alternative programs are characterized by a smaller size, program autonomy, committed teaching force, nontraditional, individualized curricula that emphasize real-life examples, experiential education, and a positive atmosphere and supportive peer culture—all

TABLE 2

Examples of Recommended Components for Dropout Prevention Programs

☐ Counseling and guidance (school/community based)

☐ Remedial education (reading/math labs; tutorial assistance)

☐ Alternative placements (work-study and alternative school programs)

☐ Special interest programs (extracurricular and recreational activities; community service opportunities)

☐ Mentoring

☐ Tutorial assistance

☐ Parental involvement

☐ Alternative curriculum

☐ Monitoring student performance (attendance, testing, and educational history)

☐ Personal attention from educators at the first sign of excessive absenteeism

☐ Use of authentic assessment approaches to determine students' strengths and weaknesses for individualized program planning

☐ Maintaining academic profiles to facilitate student placement in proper compensatory and alternative programs or schools

☐ Establishment of student record systems (track progress and placement of individual students, profile progress of different student groups, transfer records from one school and school system to another)

☐ Intervention elements that enhance students' engagement with schooling (create smaller schools within middle schools, increase attention to students' personal needs, reform grade retention policies, eliminate ability grouping, promote cooperative learning, offer career education, and improve the student-teacher relationship)

Note. Components drawn from reviews by Nichols and Nichols (1990); Wells (1989); and Wircenski (1991).

characteristics associated with students' engagement with school and learning (Institute for Educational Leadership, 1986).

McPartland (1994) argued that program developers need a coherent set of general components to increase the holding power of schools serving students at risk and that these components need to be adapted to fit local circumstances. He cogently addressed this need when he stated, "It is unlikely that a program developed elsewhere can be duplicated exactly in another site, because local talents and priorities for school reform, the particular interests and needs of the students to be served, and the conditions of the school to be changed will differ" (p. 256). Thus, he advocated designing programs to enhance students' motivation to stay in school by examining both the organizational environment (i.e., the school's academic goals and social relations) and nature of organizational problems (i.e., within-school experiences and outside-of-school connections). Thus, broad intervention components that are important to enhance student motivation to stay in school and work hard at school learning goals include providing opportunities for success in schoolwork, creating a caring and supportive environment, communicating the relevance of education to future endeavors, and helping with students' personal problems.

In Table 3, examples of intervention strategies for each component are provided, and the overlap with interventions presented in Table 2 is acknowledged. The merit of McPartland's (1994) organization is that it is applicable to all students who are at risk for school failure. According to McPartland, comprehensive school completion programs focus on delivery of the four components in family, school, and community contexts. Although there is not an exact prescription of what actually works to reduce dropout, there is a clear theoretically based framework from which to design interventions that promote students' school completion.

EFFECTIVENESS OF INTERVENTIONS

As indicated, most research on school dropouts describes "who drops out." In our review of intervention studies, we found different approaches, which lead to several specific conclusions about the effectiveness of strategies for preventing dropout or enhancing school completion rates. First, general prevention programs that do ***not*** target dropout prevention as a primary goal, but do collect longitudinal

TABLE 3

Examples of Each of Four Components in McPartland's Organization

	Formal (Academic Goals)	**Informal (Social Relations)**
Internal (School Experiences)	*Opportunities for Academic Success* ❑ Intensive reading instruction at early grades ❑ Extended course time in later grades to prevent failures & grade retention ❑ One-on-one teacher tutors ❑ Peer tutoring ❑ Extended day and summer school programs ❑ Use of alternative assessment procedures ❑ Recognition for individual growth and improvement ❑ Special instructional programs and curriculum modification to include talent development ❑ Close monitoring of period-to-period attendance and regular feedback to students and parents on classroom performance	*Supportive Community of Learners* ❑ Use of adult mentors and extracurricular activities ❑ Use of alternate organizational strategies to reduce anonymity such as schools within schools, interdisciplinary teacher teams, cooperative learning, close connections with employment settings, educational communities for 200–400 students, and integrated services ❑ Decrease alienation from school via expanding roles of homeroom teacher to mentor and personal guide, extending class periods to reduce frequent change, clustering students over sustained period of time, providing orientation activities for parents and students, offering after-school activities at high school before middle school students begin classes there ❑ Community service learning

TABLE 3
Examples of Each of Four Components in McPartland's Organization (continued)

External (Connections to Outside)	*Relevance to Personal Lives & Future Goals* ☐ Vocational offerings and career counseling ☐ Using and building on cultural backgrounds and experience of students ☐ Flexible schedules and work-study programs, integration of academic and career emphases in common curriculum, job placement assistance, and transition activities between high school and postsecondary educational settings · Introduce high school students to local workplaces and arrange visits to higher education institutions	*Help with Personal Problems* ☐ Health care ☐ Individual and group counseling ☐ Integrated social services for youth and families ☐ Direct problem-solving training to reduce truancy and classroom misbehavior ☐ Facilitate family and family-school problem solving

Note. Examples are drawn from descriptions of several programs designed by numerous authors reported in Rossi, R. J. (Ed.), (1994), *Schools and students at risk: Context and framework for positive change*. New York: Teachers College Press.

data on students' exit status, have not been shown to be effective. These programs usually establish overt goals directed at influencing correlates of dropout, such as improving academic performance or decreasing disruptive behavior. For example, the goals of the Summer Training and Education (STEP) program were to increase basic skills and lower teen pregnancy and only secondarily to reduce dropout rates by providing poor and underperforming youth with remediation, life skills, and work experience across 2 consecutive years, including intensive summer programs (Sipe, Grossman, Milliner, 1987). Students were provided ongoing support and personal contact during the intervening school year. Interventions included economic incentives, instruction in reading and math skills, instruction on responsible social and sexual attitudes and behavior, and participation in part-time work. Pre-post measures of achievement, attendance, credits earned, grade advancement, dropout status, attitudes about sexual and social issues, and career awareness for the treatment and control groups in the first cohort were not overwhelmingly positive. However, gains in the academic performance of at-risk students were evident especially in the area of math.

Second, the effectiveness of single strategies to prevent dropout have not been shown to be effective. For example, Catterall (1987) implemented a counseling and training program that consisted of a 4-day residential workshop to prevent dropout. Using an experimental design with pre- and posttests for both treatment and control groups, he assessed several outcomes: school performance, in-school behavior, persistence in school, and school attitudes. Unfortunately, results suggested that "group counseling alone is at best ineffective and perhaps detrimental to success in school for academically at risk adolescents" (p. 536). A variety of single strategies such as mentoring, counseling, reality therapy, short-term residential programs have been used. We even found a special fitness counseling program addressing risk factors associated with heart disease described as a way of preventing dropout (Cassel, 1993). In general, research suggests either that a particular single strategy is not effective or that the implementation of the strategy must be more systematic or comprehensive (Einolf, 1995). This points to the need for clarity of design, as well as the importance of training, adequate resources, and measures to ensure treatment integrity.

Third, there is some evidence for the effectiveness of comprehensive strategies that address an individualized approach for secondary students who are at risk of dropping out. For example, Baker and Sansone (1990) examined the effectiveness of an in-school committee designed to generate a wide range of interventions to keep students in school. Of 1,600 students in grades 9–12, nearly 70 received interventions at the individual, school, district, or community level. At the end of the school year, 55% of the students who had received intervention continued to be enrolled at school.

Finally, there is emerging evidence for the effectiveness of interventions that target both student and classroom/school characteristics, or those that seek to establish a person-environment fit. For example, Mayer, Mitchell, Clementi, Clement-Robertson, and Myatt (1993) aimed to reduce dropout rates by making classroom environments less punitive. Based on research suggesting that punitive school and classroom environments contribute to attendance problems and feelings of alienation, their intervention also addressed the mismatch between low levels of academic skills and challenging classroom assignments that contribute further to negative classroom climate and students' sense of failure. Program elements were multifaceted, including consulting with teachers regarding classroom management, tutoring, career development activities, and an intensive summer school program with community-based activities. Nearly 200 students in Los Angeles County participated and their progress was measured using various instruments with pre, post, and normative comparisons. Compared with district dropout rates, dropout rates for students who participated in the program were lower. There was also evidence of increases in the percentage of academic engaged time for students, positive teacher statements, and a 35% decrease in suspensions.

In sum, the most effective interventions appear to be those that are designed specifically to decrease the dropout rate and intervene at both the student and classroom/school levels. Research on school dropouts is primarily descriptive, based usually on an examination of isolated variables or at most the correlation among two or three. Few efficacious intervention studies, particularly using longitudinal designs exist (Wagner et al., 1991). The lack of longitudinal data precludes strong empirical statements about what promotes school completion rates. Dependent variables most often reflect signs of engagement, such as students' enrollment status or credits earned toward graduation, rather than high school graduation rates.

Effective Practice in Model Programs

Because of the paucity of empirically supported models of comprehensive school completion programs and/or field-tested interventions to enhance school completion, the U.S. Department of Education, Office of Special Education Programs (OSEP) established three cooperative agreements under a program competition titled "Dropout Prevention and Intervention Programs for Junior High School Students in Special Education." The programs were to focus on youth with learning and emotional/behavioral disabilities, with priority given to programs using a collaborative approach across multiple spheres of influence—home, school, and community. Projects were funded from 1990 to 1995 to develop, refine, and evaluate dropout prevention and intervention strategies.

ABC Projects

The three projects, Achievement for Latinos through Academic success (ALAS), Belief Academy, and Check and Connect (later called the "ABC" projects), were located in Los Angeles, Seattle, and Minneapolis, respectively. The ABC projects (see Authors' Notes) addressed the dropout problem within the context of urban school districts with large percentages of students in poverty and students from economically and culturally diverse backgrounds. The cities provided different contexts that went beyond geography. Although all projects started by emphasizing academic interventions, family-school collaboration, and access to community resources, the ways in which they were carried out was shaped by the context within which each project was developed. Because of the different contexts and differences in the project approaches, we believe we have a richer picture of the dropout problem among youth with learning and emotional or behavioral disabilities than any single project alone. One of the strengths of the three projects is that they collected some comparable data.

- ☐ In Los Angeles, ALAS was established as a separate program available to targeted students and their parents. The students in this project were in a pullout program and, along with their families, were assisted both outside and inside the school setting (see Rumberger & Larson, 1994).
- ☐ In Minneapolis, Check and Connect was neither completely part of the school nor completely outside it. The project worked both with school personnel and with students and their families. Students in this project remained the respon-

sibility of school personnel, with project personnel collaborating to provide assistance to the students and their families (see Sinclair, Christenson, Evelo, & Hurley, 1998).

- ☐ In Seattle, Belief Academy became the school. Students and parents were asked for their commitment to the program. Students were the responsibility of project personnel.

Based on 3 years of intervention, these projects identified five interrelated intervention elements as effective in helping youth in middle schools stay in school: monitoring, relationship building, problem solving, affiliation, and persistence-plus (Thurlow, Christenson, Sinclair, Evelo, & Thornton, 1995). The purpose of monitoring was to target the occurrence of risk behaviors—such as tardiness, skipped classes, absenteeism, behavioral referrals, suspensions, and academic performance—and to measure the effects of timely interventions. To be timely, information on occurrences of these "flags" was kept on a continual basis, and tabulated on a daily or weekly basis to determine whether a problem existed.

Relationship-building centered on improving adult-student relationships. Furthermore, the foundation of the relationship was based on the premise that an adult associated with the school cared about the student's educational experience, and both noticed and acknowledged the youth's educational progress. For example, students' absences would not pass without comment, and their incremental improvements would not go unrecognized. Problem-solving strategies focused on developing capacity in the students, as well as family and school staff. Students were taught structured problem-solving skills to help them handle current conflicts and to think through potential issues. Although the specific approach to developing problem-solving skills could vary, ABC projects staff found that it was important to explicitly address behavioral warning signs of school withdrawal and logical consequences of the behavior, as well as to help generate a list of potential options for the future. Affiliation was used to refer to the student's connection to school and sense of belonging to the school community. Across projects this connection was promoted by participation in extracurricular or community service learning activities.

Persistence, continuity, and consistency combine to form the fifth element, persistence-plus, which was used by school personnel to engage students at school and in learning. Persistence meant that there was someone who was not going to give up on the student or allow the student to be distracted from the importance of school. Continuity meant that there was someone who knew the student's needs throughout the school year, through the summer, and into the next year. Consistency meant that the message was the same from all concerned adults, only increasing and decreasing in intensity as conditions prescribed. To the extent possible, the same person provided persistence-plus. When it wasn't possible, the same message was given: "Do the work, attend classes, be on time, express frustration in a constructive manner, and stay in school." Persistence-plus was deemed critical for students who were at risk for dropping out of school. This message was also given to students who had been repeatedly truant, suspended, or on the run. Even for students who had made the decision not to return to school, the "message" was clear from a key person who had connected with the student in the past: "It's important to be in school, and when you are ready, I will be available to help you return to school."

The projects found that the five elements are intertwined, suggesting that comprehensive programs are necessary to promote school completion. For monitoring to be effective, it must be consistent and visible to the student when risk behaviors first emerge. Monitoring at its best should be done by the same person and requires at least weekly connections with the student. For relationships to support educational progress, they must focus on consistency, continuity, and persistence in the message that school is important, and they must provide students with essential skills for solving problems in varied settings—and everything must promote affiliation with school so that additional supports for the student grow over time.

Using these coordinated strategies, Thurlow and colleagues (1995) found that students in the treatment groups were more likely to be enrolled (86% vs. 75%) and earning more credits toward graduation than students in the comparison groups (76% vs. 47%). Common lessons learned across the projects about families, school staff, and school policies appear in Table 4.

Check and Connect School Engagement Model

Check and Connect has continued to be refined and studied since 1990. Currently the model is being implemented in multiple school districts of both urban and suburban communities, across elementary and secondary grade levels. These applications reflect a collaborative effort of higher education, the public schools, coun-

TABLE 4
Lessons Learned about Families, School Staff, and School Policies

About Parents & Families

☐ Almost without exception, parents and family members want their kids to complete school.

☐ Parents and family members participate in school functions if provided appropriate and effective communication, support, encouragement, and resources.

☐ Parents and students welcome school staff into their home and their community.

☐ The relationship between parents and students may or may not be appropriate for promoting the student's school completion; some students will benefit dramatically from having their families more involved in the school, while other students will need to figure out how to make progress toward school completion without parental support.

About School Staff

☐ For at-risk students to stay in school, out-of-school issues must be addressed—use of out-of-school time, family problems, mobility issues (moving from aunt to uncle and back), proper clothes for school, concern for parents' health and sobriety. Students are relieved if staff are aware of conditions—even if staff can't really do much about them.

☐ School staff must help facilitate and coordinate student involvement with community organizations—including the court system—helping students or parents get treatment and assistance through youth and family services.

☐ Students will trust and build relationships with almost any adult at the school site if the adult is valuing, persistent, reliable, and honest with the student—gender and ethnic match is not as important (after an initial rapport-building period) as the ethic of caring and persistence on the part of the adult.

☐ School staff need intensive in-service regarding perceptions of the following:

1. Safety of the city
2. Parents' intentions or feelings for their adolescents, and their desire for them to remain in school
3. Court system
4. Adolescent mental health needs
5. How to locate and interact with other community agencies
6. Cost to society when a student permanently disengages from school

Table 4 continued on p. 238

TABLE [illegible]

[illegible] Families, School Staff and School Policy

(continued)

- ❑ School staff need extra resources to help them engage at-risk students in school, while at the same time other responsibilities increase.
- ❑ Special education staff need to be more informed about special education law and student due process rights as well as district special education policies.

About School Policies

- ❑ School administration needs to look at suspension and transfer policies, with the goal being to reduce the use of these and other exclusionary practices.
- ❑ School administration needs to let staff know that keeping students in school is a major goal. Staff are often relieved when a student with difficult behaviors departs from school; standard practices to retrieve these youth are not in place.
- ❑ Districts need to design a means of keeping supportive staff in consistent locations with students, even if students' families move about the city.
- ❑ Schools need to stay in touch with students when in treatment settings—so that the adolescents' transition back to school is easier.
- ❑ Total integration into the mainstream, as it is currently implemented, may place secondary school students with learning or emotional disabilities at higher risk for dropping out of school. A regular connection with special education is more conducive to staying engaged in school.

ty social services, and county correctional services. The target populations include high school students with emotional and behavioral disabilities, secondary students with and without disabilities who have been identified as chronic truants, as well as elementary-school-age children with and without disabilities who are excessively tardy or absent from school.

Check and Connect is designed to promote and maintain students' engagement with school; the orientation is on promoting school completion by connecting students and their families with school and learning. Key features of the model include: systematic monitoring of alterable variables, relationship building, affiliation with school and learning, problem solving, immediate individualized intervention, student/family level focus tied to schooling, and persistence-plus. Interventions are directed by a "monitor" and focus on the individual needs and educational development of the child and on empowering families to provide educational support to their children.

Role of the Monitor—The person responsible for helping the child develop positive patterns of school engagement is referred to as the monitor. The role of the monitor can be characterized essentially as a combination of mentor, case manager, and advocate. The monitor's primary goal is to promote regular school participation and to keep education a salient issue for students, parents, and teachers.

Trust and familiarity are developed over time through persistent efforts such as regularly checking on students' attendance and academic performance, providing ongoing feedback about students' progress, modeling the use of problem-solving skills, and frequently communicating with families about both good and bad news. Families are often more willing to extend their trust to monitors because they can cast themselves as "community agents" independent of the schools and social services system—institutions in which many families who are disengaged from their children's school have little confidence.

Ideally, a monitor works with a student across several years. In the best-case scenario, the monitor works with the same caseload of students, moving with the child and families from program to program and from school to school. In cases involving students who do not attend school regularly, particularly youth for whom stability and consistency are not a typical component of daily life, the continuity provided by a monitor is reassuring for the student and provides an informative resource for teachers and parents trying to meet the student's needs. Of course, this scenario is not always possible. When it is not, the message of the monitor is used to promote consistency, continuity, and persistence. It is important to note that some students on a monitor's caseload may already be connected with an adult in the school building—the primary teacher, special education case manager, custodian, or coach. The monitor's role is not to replace established relationships, but to work with that adult in the process of supporting the student's engagement with school.

Essential qualifications for a monitor include the following skills and attitudes:

- ☐ Persistence;
- ☐ Belief that all children have abilities;
- ☐ Willingness to work closely with families using a non-blaming approach;
- ☐ Advocacy skills, including the ability to negotiate, compromise, and confront conflict;
- ☐ Good organizational skills and accurate documentation of intervention efforts; and
- ☐ Ability to work well independently in a variety of settings.

Individuals who have staffed these positions typically hold a bachelor's degree in a human-services-related field and have at least 1 to 2 years of experience (paid and volunteer) working with youth and/or families from high risk backgrounds. Monitors are provided weekly supervision by project personnel, who in several cases have been school psychologists.

The Check Procedure—"Checking" students' engagement with school is the strategy used to monitor early warning signs of withdrawal. Student levels of engagement are monitored on a regular basis—daily to at least weekly. Level of engagement is measured as a function of alterable indicators such as tardiness, absenteeism, and suspensions. The degree of student risk is based on the number of incidents per month within each risk category. Risk criteria are based on research as well as input from school administrators, teachers, and project staff. Categories for secondary schools include: tardiness, absenteeism, behavior referrals, incidents of detention, in-school suspension, out-of-school suspension, failing classes, and being behind in credits (earning less than

80% of possible credits per grading period). Categories of risk criteria for students attending elementary schools include: tardiness, absenteeism, out-of-school suspension, academic difficulties (below satisfactory performance in reading and math), bus incidents, behavioral referrals, and detentions.

A monitoring sheet is used to document occurrences in each of the categories and provides an ongoing account of student progress. Patterns in student behavior can be assessed quickly on one piece of paper by examining the monthly summary and brief narrative of interventions over an entire school year.

Student-Connect Procedures—Two levels of student-focused interventions were developed to maximize the use of finite resources: basic interventions, which are the same for all students and delivered one to two times a month, and intensive interventions, which are more frequent and individualized. All students receive basic interventions, whereas indicators of school engagement are used to determine whether intensive intervention is delivered. Individual needs of the student and family dictate what intervention strategy is designed.

Students are targeted because of excessive tardiness and absences. As a sustained preventive measure, basic interventions are administered to all targeted students. Basic interventions use minimal resources in an effort to keep education a salient issue, particularly after a working relationship has been established among the monitor, student, parents, and school staff. Basic student interventions are the same for elementary and secondary schools, and include: (a) sharing general information about the monitor's role and the Check and Connect model; (b) formally providing students feedback about their overall progress in school; (c) regularly discussing the importance of staying in school and learning; and (d) problem solving with students about indicators of risk for disengaging from school. For problem solving, students are guided through real and/or hypothetical problems using a five-step cognitive-behavioral problem-solving strategy developed by Braswell and Bloomquist (1991):

(1) "Stop. Think about the problem."
(2) "What are the choices?"
(3) "Choose one."
(4) "Do it."
(5) "How did it work?"

Intensive interventions are administered for students showing high risk in relation to any of the early warning signs. Connection strategies correspond to key constructs of school engagement (participation and identification with school) and are developmentally appropriate to grade levels. Existing services are used as much as possible, rather than developing a separate set of duplicative services. It is our belief that interventions are more likely to remain in place if we establish networks with community organizations and connect with professionals in the school district or county.

Examples of elementary intensive student interventions include:

- Participation—calling the student and parent in the morning to make sure they are out of bed and getting ready for school.
- Student initiative and responsibility—helping students regularly apply organizational skills.
- Academic competence—ensuring students' access to and regular use of building or community tutors.

Examples of secondary intensive student interventions include:

- Identification—encouraging active student and parent participation in the transition planning process and facilitating interagency participation in the development and implementation of relevant transition goals and objectives.
- Social/behavioral competence—role playing how to use problem-solving steps to manage conflict and to think about alternative actions.
- School support for learning—negotiating with school administrators for alternatives to out-of-school suspension and/or administrative transfers.

Parent-Connect Procedures—Although this component is presented separately, in practice it is intertwined with student outreach efforts. In general, the monitor's role includes engaging parents in students' schooling and learning, and empowering parents by facilitating contacts with other resources as requested by the family or by minimizing barriers identified by the family. Collaboration with family members is an essential component of the monitor's role at the elementary level. And although family support for learning is promoted at the secondary level, secondary monitors spend most of their time directly with youth to maintain their engagement with school.

The orientation toward parent outreach adopted by all monitors mirrors dimensions that are the foundation of family-centered practice (McWilliam, Tocci, & Harbin, 1998). Monitors develop trusting relationships with families by adhering to six dimensions that guide their interactions. Monitors must have a *family-centered orientation*, directing education-related services to the family, not just the child. Interactions are characterized by *positiveness* (belief in parents' abilities) and a *sensitivity* to anticipate how parents might feel given a variety of circumstances. Monitors must be *responsive*, listening and paying attention to parents' needs. Relationships are reciprocal in nature and monitors maintain a level of *friendliness* conveying support, encouragement, and care. Finally, monitors act as a *resource* for families and provide useful information about children, schools, and the community.

Overall, a critical goal of parent-connect efforts is to work with families as partners to increase their active participation in their children's education. For many families, the move from a passive to an active role requires persistence, trust, and open communication. Essentially, the monitors build trusting relationships with families by building parental self-efficacy, helping parents learn how to constructively take initiative with the schools and helping them confront erroneous teacher attitudes (Cochran & Dean, 1991). Monitors teach parents to ask the right questions of teachers so that parents can help their children be consistent learners and can demonstrate to teachers their interest in education. With respect to the connect procedures, we speculate that the advocacy-type role of the monitor and the relationships she or he builds with the student, family and school staff are a more powerful feature of the Check and Connect model than the specific intervention strategies designed. The mutual trust and understanding that is developed over time through a persistent focus on the youth's educational progress is the key to creating opportunities for suspicious families to approach support services, for skills to be acquired, for information to be absorbed, and for students to be encouraged to surmount challenging barriers.

Efficacy for the model. Empirical support for the Check and Connect school engagement model was established when a cohort of 94 students with learning and behavioral disabilities who had received 2 years of Check and Connect in grades 7–8 were entering high school. At the beginning of their ninth grade year, this cohort was randomly assigned to treatment (continuation of Check and Connect) and control (no further intervention) conditions. Students in the treatment group were significantly more likely to be engaged in school and on track to graduate (Sinclair et al., 1998). Specifically, more treatment than control students were enrolled in school, had earned more credits toward graduation in a timely fashion, had never dropped out (i.e., they were persisters), and had completed more class assignments at the end of ninth grade. They also were rated by teachers as more socially competent. Interviews are currently being conducted to determine school completion rates for this cohort.

Only preliminary data are available for the elementary students. To date, over 270 students from 11 elementary schools have been served since the project began in the fall of 1997. About 60% of students who have participated in Check and Connect for 18 months or more have shown improved attendance (as evidenced by a decrease in absences and tardiness compared to baseline data). Exploratory analyses indicated that a higher proportion of students who showed increased risk (as evidenced by an increase in absences or tardiness) were students who had transitioned into middle schools or junior high schools. In the spring of 1999, 2 years into the program, nearly 75% of school staff who completed surveys perceived that students were showing signs of positive educational change.

In sum, key findings across the last 9 years of intervention suggest that Check and Connect promotes school engagement among youth placed at high risk for school failure. We have learned that sustained intervention is critical and should be maintained at appropriate levels over a period of at least 2 years and through critical transitions, such as middle school to high school. The model appears to be effective for youth both with and without disabilities and is most appropriately applied when targeting youth who demonstrate alterable warning signs of school withdrawal, such as absences, suspensions, and failing grades.

IMPLICATIONS FOR PRACTICE

In this chapter, we have highlighted the complexities of the phenomenon of dropout, summarized unalterable and alterable variables associated with dropout, and examined reasons students drop out and stay in school. Components of effective dropout prevention programs have been discussed and we have provided an example of an empirically supported model program for promoting student engagement. How can this information be used by school psychologists?

First of all, school psychologists are in an ideal position to facilitate an understanding of the issues influencing school completion for all students. School psychologists have the necessary skills to translate theory and research into practice. For example, they can assist others in understanding the reciprocal influence of the many complex situational and contextual variables in school, family, and community on the behavior, development, and learning outcomes of children and adolescents (Jessor, 1993). Related to school completion, the person-environment fit is necessary to enhance student engagement with school. Successful school restructuring efforts do not saddle students with the label of educational risk; rather, they focus on changing the contexts of schooling to achieve a better match according to students' needs (Fine, 1994). The emphasis on contextual changes, such as the use of alternate organizational structures to reduce anonymity (e.g., modify size, increase interaction and participation, alter school policies and practices) and home support for learning, are major ways school psychologists can make significant contributions. They can promote school completion programs that are organized around a strong theoretical framework, rather than programs that are simply the implementation of one or two dropout prevention strategies (Rossi, 1994).

Second, school psychologists' knowledge of child development coupled with research in the areas of school engagement and dropout can be used to develop strategies for promoting school completion. To illustrate, research suggests that the extent to which students have developed problem-solving skills is a protective factor for high risk youth. Enhancing students' competence in problem solving is a seminal feature of many health promotion and prevention programs (Braswell & Bloomquist, 1991; Elias & Tobias, 1996; see also chapter 2, this volume). Problem solving provides a structure for students to better handle interactions with peers, teachers, and parents. Cognitive behavioral interventions that focus on the development of problem-solving skills to enhance students' social decision making and anger control can be used with students to prevent negative experiences and alienation that contribute to early school leaving. Furthermore, these interventions to promote school completion encourage active participation by the student, thus providing opportunities for students to address personal attitudes and establish realistic goals.

Third, based on their knowledge of status predictors and correlates of dropout, school psychologists can play an important role in identifying students who may be at risk of dropout. Perhaps more important, school psychologists can play an influential role in emphasizing a need to address alterable variables associated with dropout, beginning in elementary schools. This emphasis can advance a shift from diagnosing students as dropouts to identifying resources and implementing interventions that may change their trajectory toward dropout. We know that protective factors for youth placed at high risk for school dropout exist within schools, families, communities, peers, and students themselves (Masten, Best, & Garmezy, 1990). Related to school completion, successful programs strive to enhance students' engagement by providing opportunities for success in schoolwork, creating a caring and supportive environment, communicating the relevance of education to future endeavors, and helping students with personal problems (McPartland, 1994). Of particular significance for promoting better outcomes for high risk youth is the presence of a consistent, stable relationship with a caring adult. Although school psychologists may not be staffed at a ratio that would enable them to personally provide this relationship for all students of need, they can identify and work with others to foster positive adult-student relationships.

Alterable variables associated with dropout can be addressed at the individual student, family, school, and community levels. The role of the school psychologist is varied and spans many domains allowing professionals to choose how they can best utilize their personal skills within the context of their position. For example, school psychologists have skills to provide individual or group counseling, facilitate integrated social services for youth and families, teach direct problem-solving skills, and facilitate family and family-school problem-solving sessions. Working in collaboration with school personnel and parents, school psychologists can advocate for and develop changes in existing school policies and practices that exacerbate the dropout problem. Moreover, alternate ways to complete high school may need to be investigated. Recognition that there are many ways for youth to complete school places the focus beyond simply preventing students from dropping out toward engaging them in the learning process regardless of setting. School psychologists can help design programs and build environments that support attaining high academic and behavioral standards for all students.

Fourth, school psychologists are in an ideal position to advocate for systems change for disengaged students. Dropout prevention programs and strategies are many and varied, and research does not clearly point to one solution that can be used to remedy the dropout problem. Although we do not yet have an exact prescription for intervening and preventing dropout, we do know enough to reach out to disengaged learners. We recommend five guiding principles for consideration by school personnel.

1. School-based strategies to reach objectives represented by the National Educational Goal 2 must be clearly delineated. We cannot merely state the desired goal and expect to reach it through increased awareness and willing it to happen. Specific means for reaching the goals must be articulated and those who are implementing the strategies must have appropriate training or skills.
2. Choice of programming and strategies must be tied to predictors of dropout or school completion. Current research points to the role of alterable variables associated with early school withdrawal, information that is especially valuable in guiding school-based intervention efforts. Tracking student attendance, test scores and grades, behavioral referrals, and involvement and identification with school provides information about students who are disengaging from school and learning.
3. Comprehensive interventions need to be sustained, rigorously implemented, and consistently followed.
4. Intervention strategies must be tailored to individual needs. With respect to feelings of school alienation in particular, one size does not fit all. Intervention efforts need to be based on a clear understanding of the student population served. We suggest an analysis of the student population that applies the continuum of marginalized-disengaged (e.g., excessive attendance, suspension) to member-engaged learners (e.g., participation in school activities, sense of belonging). Understanding the student perspective is vital.
5. Designing context-specific interventions using the five essential elements identified by the ABC projects (i.e., monitoring,

relationship building, problem solving, affiliation, and persistence-plus) requires that school personnel focus on both individual student and environmental characteristics, specifically school and family policies and practices that connect children and youth to school and learning.

Finally, lessons learned from the implementation of a model program such as Check and Connect point to the importance and need for clear documentation and record keeping on dropout rates and risk factors. The discipline of school psychology has a rich history in the areas of assessment and evaluation. Related to school completion, school psychologists are adept at identifying students who are at risk for school noncompletion as well as identifying the risk factors present in students' primary contexts for development (Jessor, 1993). Continuous progress monitoring and mobility tracking systems to create an assessment-intervention link, such as Check and Connect, can be implemented. Furthermore, school psychologists can assist in establishing clarity in the calculation of and accuracy in the reporting of dropout rates (Sinclair, Christenson, Thurlow, & Evelo, 1994). Any program or strategy that is implemented requires a rigorous evaluation to determine effectiveness for all students, including outcomes for low-income, minority students, or youth with disabilities in particular. School psychologists may also be able to play an important role ensuring the treatment integrity of planned and implemented interventions. Clearly, because of available skills, school psychologists have opportunity to be involved and participate in the design and implementation of school engagement programs.

CONCLUDING REMARKS: THE CHALLENGES

Dropout prevention programs usually have components that aim to improve school performance, attendance, or positive relationships. However, the literature has traditionally focused on decreasing the dropout rate or increasing graduation as opposed to focusing on the goal of fostering school engagement as a way to promote school completion. Through our work in this area, it is clear that an important ingredient of an effective prevention effort is not just to ameliorate the problem but to replace it with healthy positive behaviors that are associated with increased student engagement in school and with learning. Thus, a dropout prevention program is much more than decreasing absences and tardiness; it must consist of strategies to build school participation and promote positive school experiences to adequately address the complexities of the dropout phenomenon. Many challenges lie ahead for school psychologists who accept the goal of enhancing student engagement for all students, especially for those students who are most alienated from school and learning for whatever reasons.

A primary challenge is present also for the discipline of school psychology. The National Educational Goal 2 emphasizes school completion, not just dropout prevention. We speculate that the existence of individual, school-based programs that are not interconnected will not provide the conditions necessary to make substantial progress to reach the objectives of Goal 2. Schools across the nation have dropout prevention programs, but for the most part these programs are not comprehensive enough to adequately address the problem. Current programs tend to address only one or two components, are implemented primarily in the school setting, and take a "corrective" orientation (e.g., counseling, tutoring). However, school completion requires a primary focus on student engagement, particularly finding ways to enhance the interest, enthusiasm, belonging, value for school and learning, motivation to learn, and school progress of children and youth. It demands establishing a person-environment fit over time and across settings. Thus, it must be comprehensive and establish connections between the spheres of influence in children's lives (Jessor, 1993). School completion has a positive orientation; it is achievable for all. We challenge the discipline of school psychology to collectively provide necessary supports to all students so that they may complete school meeting established academic, behavioral, and social standards.

RECOMMENDED RESOURCES

Books, Journal Issues, Chapters

Christenson, S. L., Hurley, C. M., Hirsch, J. A., Kau, M., Evelo, D., & Bates, W. (1997). Check and Connect: The role of monitors in supporting high-risk youth. *Reaching Today's Youth, 2* (1), 18-21.

This article provides a brief overview of the Check and Connect school engagement model and specific information about the role of the monitor, who is responsible for implementing the model. Five essential elements of the model are discussed: relationship building, monitoring indicators of risk, problem solving, affiliation, and persistence-plus. Also discussed in this article are common implementation barriers.

Rossi, R. J. (Ed.) (1994). *School and students at risk: Context and framework for positive change*. New York: Teachers College Press.

This book is a compilation of papers written to address the task of improving the conditions that could increase the number of students who are at risk and who could drop out of school. The book is organized into sections that discuss the context and history of reform efforts, culture and cultural conflict in school, and current reforms being implemented at the school and the systems levels. The final section provides frameworks for change with chapters that focus on dropout prevention in theory and in practice, and on identification of barriers to reform.

Thurlow, M. L., Christenson, S. L., Sinclair, M. F., & Evelo, D. L. (1997). Wanting the unwanted: Keeping those "out of here" kids in school. *Beyond Behavior, 8* (3), 10-16.

This article describes key intervention elements and considerations for those interested in keeping students with emotional/behavioral disorders in school and on track towards school completion. Data and information were gathered from three research and demonstration projects funded by the Office of Special Education Programs. A description of the Check and Connect project illustrates how key intervention elements could be implemented in a school or district setting.

Web Sites

www.air.org/cecp/preventionstrategies

This is the web site for the Center for Effective Collaboration, which is administered by the American Institutes for Research. The mission of the Center is to support and promote a reoriented national preparedness to foster the development and adjustment of children with (or at risk for developing) a serious emotional disturbance. The Center is funded in part by the Office of Special Education Programs. This address links directly to an electronic guide that describes prevention practices that K-8 public school administrators have found to be effective in accelerating school performance, increasing readiness for learning, and reducing problem behavior.

www.dropoutprevention.org

Located at Clemson University, the National Dropout Prevention Center functions as a clearinghouse and research center as well as a provider of technical assistance. The site includes the National Dropout Prevention Network, a dropout prevention information database, abstracts from the *Journal of At-Risk Issues*, and a variety of other resources and publications.

www.negp.gov

Created in 1990 to measure the nation's progress in reaching the eight national education goals, the National Education Goals Panel's web site offers resources to help find out about the goals, the nation's and each state's progress, and key issues in the area of education reform, events and programs. Data on National Education Goal 2 - School Completion can be found at this address.

nces.ed.gov

The purpose of this web site is to provide clear, complete information about the National Center on Education Statistics' (NCES) mission and activities and to serve the research and education communities. Part of the U.S. Department of Education, the NCES is the primary federal entity for collecting and analyzing data that are related to education in the U.S. and other nations. Data on National Education Goal 2 - School Completion can be found at this address.

www.ed.gov/offices/OSERS/OSEP/OSEP98AnlRpt/

This web site provides a direct link to the Twentieth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act through the Office of Special Education Programs (OSEP). Information on the dropout and school completion rates of youth with disabilities can be found in these annual reports.

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CHAPTER 7:

Preventing Substance Use and Abuse

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Adolescent substance use and abuse is a serious problem that has been getting worse in recent years. In addition to interfering with the educational mission of schools, substance use has a variety of potentially serious health, social, and psychological consequences. Fortunately, there has been substantial progress over the past 25 years in the development of successful approaches for preventing early-stage drug use, as pointed out in recent literature reviews (Hansen, 1992) and in meta-analytic studies (Bangert-Drowns, 1988; Tobler & Stratton, 1997). Prevention approaches that teach social resistance skills or a set of general life skills, either alone or in combination, can significantly decrease the initiation and escalation of tobacco, alcohol, and marijuana use among secondary school students. Some of these programs have been found to produce prevention effects that persist for up to several years (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; Pentz et al., 1989). School settings are particularly well suited for large-scale drug abuse prevention programs because they offer efficient access to large numbers of youth before and during the years that they begin to experiment with tobacco, alcohol, and other drugs.

This chapter's goals are to describe the problem of adolescent drug use and abuse, review traditional and contemporary approaches to school-based prevention, and highlight those approaches that are most effective in changing behavior. In addition, we discuss several ways in which school psychologists can play an important role in the selection, implementation, and evaluation of school-based drug abuse prevention programs. Finally, we review a model drug abuse prevention program called *Life Skills Training* (LST), a universal school-based intervention that combines drug refusal skills training with general personal competence and social skills training. The LST program, first developed by Botvin in the early 1980s, is designed to decrease vulnerability to prodrug social influences, decrease individual motivational factors that lead to drug use, and ultimately, reduce drug use among youth.

EPIDEMIOLOGY OF ADOLESCENT SUBSTANCE USE AND ABUSE

Results of recent national survey data indicate that adolescent substance use has steadily increased during much of the 1990s. These increases have been observed in youth from different regions of the country, from different social classes, and for different age groups. Data from the *Monitoring the Future Study* (Johnston, O'Malley, & Bachman, 1998) indicate that in 1997, 54% of 8th graders, 72% of 10th graders, and 82% of 12th graders reported using alcohol in their lifetimes. Furthermore, 47%, 60%, and 65%, respectively, had smoked cigarettes; and 22%, 40%, and 49%, respectively, had used marijuana. The use of illicit drugs (i.e., illegal drugs or legal drugs such as prescription medications that are used inappropriately) has been steadily on the rise among adolescents since 1992, with up to 30% of 12th graders and 25% of 10th graders in 1997 reporting having used an illicit drug other than marijuana, such as stimulants, hallucinogens, cocaine, or heroin (Johnston et al., 1998). There is also evidence that the initiation of substance use among youth is now occurring at earlier ages. The *Youth Risk Behavior Surveillance Survey* (Centers for Disease Control [CDC], 1998) polled over 16,000 youth and found that in 1997, students in 9th grade were significantly more likely than students in 12th grade to have reported smoking a whole cigarette, drunk alcohol, or tried marijuana before 13 years of age. Students in 9th grade were also significantly more likely than students in 12th grade to report lifetime inhalant use.

In addition to showing that drug use in the United States is at unacceptably high levels, these statistics illustrate that there is a general developmental progression of use for most substances. Rates of substance use are lowest during early adolescence, but generally increase with age in a well-defined sequence (Millman & Botvin, 1992). This progression can be seen in escalating use of a specific substance as well as in terms of the use of additional substances over time, including illicit drugs. For most adolescents, alcohol, tobacco, and marijuana are the first substances used. These are often referred to as "gateway" drugs because they serve as the initial focus of early-stage drug-taking activity and generally precede the use of other illicit drugs (Kandel, 1975). Although there is obviously no fixed progression of substance use for all youth, adolescents who experiment with illicit drugs such as hallucinogens, cocaine, or heroin typically have already used one or more gateway substances. If illicit drug use then escalates in frequency or amount, this may lead to the development of tolerance, where greater amounts of the drug are needed to produce the same psychoactive effect. Individuals who reach these stages of use run the risk of developing physical and/or psychological dependence on the substance.

Early-stage substance use, including experimenting with tobacco and alcohol during early adolescence, significantly increases the risk of heavy smoking and heavy drinking later in adolescence and early adulthood (Griffin, Botvin, Doyle, Diaz, & Epstein, 1999; Griffin, Botvin, Doyle, Epstein, & Diaz, in press). Early onset of substance use also increases the likelihood of drug-related accidents or violence in later years. For these reasons, drug abuse prevention programs targeting youth should focus on preventing the early stages of drug involvement, with an emphasis on preventing the use of tobacco, alcohol, and marijuana. Because of the direct relationship between early age of onset and the development of later serious substance use and drug-related problems, prevention programs are valuable even if they merely delay substance use initiation or prevent the transition from occasional use to more serious levels of drug involvement.

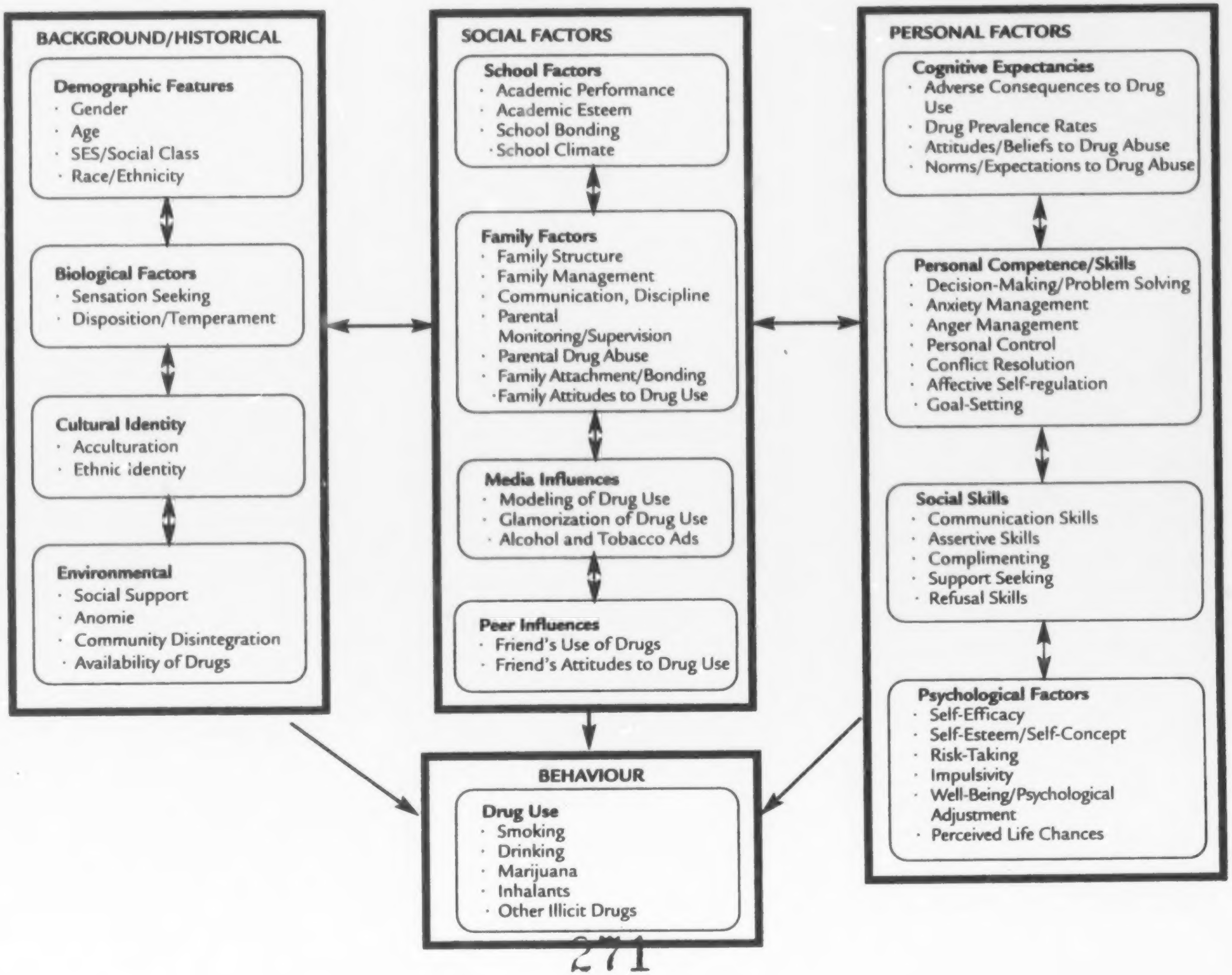
ETIOLOGY OF ADOLESCENT SUBSTANCE USE AND ABUSE

There have been several important advances in theory and research on the etiology of adolescent substance use and abuse over the past few decades. A number of theories have been applied or developed to explain this phenomenon (reviewed in Petraitis, Flay, & Miller, 1995). These include cognitive theories that describe the role of poor decision-making processes (e.g., the health belief model, Becker, 1974), social learning theories that emphasize the negative influence of substance-using role models (e.g., Bandura, 1977), personality theories that outline individual vulnerabilities or affective characteristics that lead to drug use (e.g., self-derogation theory, Kaplan, 1980), conventional commitment or social attachment theories that outline the processes by which youth withdraw from parents or school and turn to deviant peer groups (e.g., the social development model, Hawkins & Weis, 1985), as well as several broader theories that attempt to integrate multiple determinants of adolescent drug use (e.g., problem behavior theory, Jessor & Jessor, 1977). Studies testing these and other theories have identified important risk factors for adolescent drug use, as well as important protective factors that counter the effects of these risks (Hawkins, Catalano, & Miller, 1992).

Given the large number of factors that contribute to adolescent drug use, a multicomponent etiological model appears to be most appropriate. In Figure 1, we present a model that summarizes the main factors that contribute to adolescent drug use, with variables grouped into three broad domains: (a) the *Background/Historical* domain, which consists of demographic factors (e.g., age, gender, social class), biological and cultural factors (e.g., temperament, acculturation), and environmental influences (e.g., community disorganization, availability of drugs); (b) the *Social Factors* domain, which includes school factors (e.g., school climate, school bonding), family factors (e.g., family management practices, discipline, parental drug use), peer influences (e.g., friends' drug use, friends' prodrug attitudes), and media influences (e.g., television shows, movies, and advertisements that promote drug use); and (c) the *Personal Factors* domain, which includes cognitive expectancies (e.g., attitudes, beliefs, and normative expectations regarding drug use), personal competence skills (e.g., decision making, self-control), social skills (e.g., communication skills, assertiveness), and a set of relevant psychological factors (e.g., self-efficacy, self-esteem, psychological well-being).

These background, social, and personal factors are believed to act together to promote the initiation and escalation of drug use among youth. For example, some youth may be influenced to use drugs by media presentations that normalize or glamorize drug use, whereas others may be influenced by family members or friends who use drugs or hold attitudes and beliefs that are supportive of drug use. These social influences are likely to have the strongest impact on youth with poor social and personal competence skills, or those with certain psychological vulnerabilities such as low self-

Figure 1.
Integrated Domain Model of Drug Use Behavior


BACKGROUND/HISTORICAL
Demographic Features
· Gender
· Age
· SES/Social Class
· Race/Ethnicity
Biological Factors
· Sensation Seeking
· Disposition/Temperament
Cultural Identity
· Acculturation
· Ethnic identity
Environmental
· Social Support
· Anomie
· Community Disintegration
· Availability of Drugs
SOCIAL FACTORS
School Factors
· Academic Performance
· Academic Esteem
· School Bonding
· School Climate
Family Factors
· Family Structure
· Family Management
· Communication, Discipline
· Parental Monitoring/Supervision
· Parental Drug Abuse
· Family Attachment/Bonding
· Family Attitudes to Drug Use
Media Influences
· Modeling of Drug Use
· Glamorization of Drug Use
· Alcohol and Tobacco Ads
Peer Influences
· Friend's Use of Drugs
· Friend's Attitudes to Drug Use
PERSONAL FACTORS
Cognitive Expectancies
· Adverse Consequences to Drug Use
· Drug Prevalence Rates
· Attitudes/Beliefs to Drug Abuse
· Norms/Expectations to Drug Abuse
Personal Competence/Skills
· Decision-Making/Problem Solving
· Anxiety Management
· Anger Management
· Personal Control
· Conflict Resolution
· Affective Self-regulation
· Goal-Setting
Social Skills
· Communication Skills
· Assertive Skills
· Complimenting
· Support Seeking
· Refusal Skills
Psychological Factors
· Self-Efficacy
· Self-Esteem/Self-Concept
· Risk-Taking
· Impulsivity
· Well-Being/Psychological Adjustment
· Perceived Life Chances
BEHAVIOUR
Drug Use
· Smoking
· Drinking
· Marijuana
· Inhalants
· Other Illicit Drugs

esteem, social anxiety, and psychological distress. The more risk factors that a young person has, the greater the likelihood that he or she will become a drug user and/or abuser. Fortunately, knowledge about how these variables lead to drug use provides useful information for conceptualizing and designing drug abuse prevention programming. For example, a prevention program that improves personal and social competence skills may have a beneficial impact on various psychological factors (such as increased well-being or self-esteem) and behaviors (such as drug refusal skills) that are in turn associated with reduced drug use.

PREVENTION STRATEGIES

Over the past two decades, several different types of primary prevention approaches have been developed and implemented in school settings. Traditional approaches, such as information dissemination, affective education, or alternatives programming, continue to be the most common despite a large number of evaluation studies showing them to be ineffective in preventing drug use behavior. Contemporary approaches, such as social resistance skills training and competence enhancement approaches, are less common but have been shown to be more effective in prevention. Whereas earlier traditional prevention approaches were based primarily on intuitive notions of how to prevent drug abuse, more contemporary approaches are grounded in psychological theories of human behavior. Both traditional and contemporary prevention programs have been conducted mostly by school staff (e.g., teachers, health educators, drug counselors) or by outside professionals (e.g., doctors, police), and several have used same-age or older peer leaders as well.

Traditional Approaches to School-Based Prevention

By far the most common type of prevention approach is the *information dissemination model*, in which students are provided with factual information about drugs and drug abuse. Typically, students are taught about the dangers of tobacco, alcohol, or drug use in terms of the adverse health, social, and legal consequences. Informational programs also teach students about various patterns of drug use, the pharmacology of drugs, and the process of becoming a drug abuser. Some of the information-based programs have used doctors or other health professionals to talk about the adverse health effects of using drugs, whereas other programs have invited former drug addicts into the classroom to discuss the problems they encountered as the result of drug abuse. Some of these interventions include the use of fear-arousal techniques designed to scare young people into not using drugs by dramatically or vividly presenting the dangers of drug use.

Programs that rely exclusively on providing students with facts about drugs and drug abuse assume that individuals use drugs because they are not aware of the negative consequences of doing so. However, evidence suggests that this assumption is overly simplistic. Evaluation studies have shown that while informational approaches to prevention may have an impact on knowledge and antidrug attitudes, they have consistently failed to show any impact on tobacco, alcohol, or drug use behavior or intentions to use drugs. Several meta-analytic studies have confirmed this overall lack of behavioral effects (Bangert-Drowns, 1988; Tobler, 1986). Thus, although an awareness of the hazards of using drugs may play a role in deterring drug use among some youth, it has become increasingly clear that the etiology of drug abuse is complex, and prevention strategies that rely solely or primarily on information dissemination are simply not effective.

Another traditional approach to drug abuse prevention has been referred to as the *affective education model*. Rather than focusing on information about drugs, affective education approaches assume that promoting personal affective development in students will directly reduce the likelihood of drug abuse. Affective education approaches often include program content on decision making, effective communication, and assertiveness, and may also aim to promote norms against drug use. Although programs based on this model attempt to target many of the same factors addressed by more comprehensive contemporary interventions, the affective education programs typically use methods that are ineffective. Rather than focusing on skills training, these programs emphasize experiential games and classroom activities designed to target students' personal growth, self-understanding, and self-acceptance. However, there is no evidence that these exercises actually improve decision making, assertiveness, or communication skills. Like the information dissemination approach, affective education approaches have been unable to demonstrate an impact on drug use behavior, although they sometimes have an impact on one or more of the correlates of drug use (Kearney & Hines, 1980; Kim, 1988).

A third traditional prevention approach, referred to as the *alternatives model*, aims to provide adolescents with organized activities that are believed to serve as alternatives to drug use. The original model for this prevention approach was the establishment of youth centers providing a set of activities such as sports, hobbies, community service, or academic tutoring. It was assumed that if adolescents could be provided with real-life experiences that would be as appealing as drug use, then these activities would actually take the place of drug use. A second type of alternatives approach is "Outward Bound" and similar programs that include healthy, outdoors activities designed to promote teamwork, self-confidence, and self-esteem. Activities were developed in the hope that they would improve the way participants felt about themselves, others, and the world. However, like the other traditional prevention approaches, evaluation studies of alternatives programming have failed to find any impact on drug use behavior (Schaps, Bartolo, Moskowitz, Palley, & Churgin, 1981; Schaps, Moscowitz, Malvin, & Scheffer, 1986), although these programs may produce a variety of other beneficial outcomes.

Contemporary Approaches

Toward the end of the 1970s, a major shift began in the field of drug abuse prevention due to growing disappointment with traditional prevention approaches and increased recognition that psychosocial factors play a central role in the initiation of drug use. Prevention intervention strategies developed since this time have had a stronger grounding in psychological theories of human behavior. Social psychologist Richard Evans and his colleagues at the University of Houston are credited with launching this new line of prevention research (Evans, 1976; Evans et al., 1978). Evans' work emphasized the importance of social and psychological factors in promoting the onset of cigarette smoking and utilized a prevention approach based on McGuire's persuasive communications theory (McGuire, 1968). From this perspective, adolescent cigarette smoking is conceptualized as the result of social influences from peers (in the form of offers to smoke cigarettes), persuasive advertising appeals, and/or exposure to smokers who may serve as role models for students.

Two major components of Evans' approach to smoking prevention were psychological inoculation and the correcting of normative expectations. Psychological inoculation refers to the process of "inoculating" adolescent nonsmokers against the kind of prosmoking messages they are likely to encounter in real-life situations. This is done by exposing students first to relatively weak and then to progressively stronger forms of prosmoking messages. Students are taught a variety of tactics for dealing with such influences, including coming up with their own counterarguments to these appeals. Second, Evans' approach emphasized the importance of correcting false perceptions that most youth smoke. In order to correct normative expectations, Evans conducted periodic surveys of smoking status among students and collected saliva samples as objective confirmation of students' smoking behavior. After each survey, actual smoking prevalence rates in each classroom were announced to students. Since adolescents have a general tendency to overestimate the prevalence of tobacco, alcohol, and drug use (Fishbein, 1977), many students learned that actual classroom smoking rates were lower than they expected. The success of Evans' research on smoking prevention led to an increase in prevention research. Subsequent research-based prevention programs initially targeted cigarette smoking and later began to address the use of alcohol and other drugs.

Social Resistance Skills Training—Over the years, several variations on Evans' prevention strategy have been developed and tested. In general, these approaches placed less emphasis on psychological inoculation procedures and focused on teaching students how to recognize and deal with social influences to use drugs from peers and the media. An assumption of this approach is that many adolescents do not want to smoke, drink, or use drugs but lack the confidence or skills to refuse offers to engage in these behaviors. Thus, this approach emphasizes skills training to help students resist social influences. These approaches have been referred to as "social influence," "refusal skills," "social resistance skills," or simply "resistance skills" approaches. These terms are used interchangeably and all refer to this same class of prevention approaches. The term "resistance skills" is used in this chapter because it captures two central and distinctive aspects of these approaches: (a) the focus on increasing students' resistance to negative social influences to engage in drug use, and (b) the focus on skills training. Although resistance skills programs usually address social influences from the family, peers, and the media, the focus of most preventive interventions is on peer influences.

Methods. A major emphasis in resistance skills training is teaching students to recognize situations where they are likely to experience peer pressure to smoke, drink, or use drugs. The goal is to have students learn to avoid these high-risk situations and/or acquire the knowledge, confidence, and skills to handle peer pressure in these and other situations. These programs have also included a component intended to make students aware of prosmoking influences from the media, with an emphasis on the techniques used by advertisers to influence consumer behavior. Students are taught to recognize advertising appeals designed to sell tobacco products or alcoholic beverages as well as how to formulate counterarguments to those appeals. Finally, following the original model developed by Evans, these approaches often include a component designed to correct normative expectations that the majority of adolescents smoke, drink, or use drugs. This has been accomplished in various ways. In addition to the classroom survey and feedback procedure developed by Evans, students may be asked to conduct their own surveys and provide the results to the class. Students also may be asked to estimate how many teenagers and how many adults smoke, drink, or use drugs, and are then provided with statistical information from national or regional survey data.

Effectiveness. A growing number of studies have documented the effectiveness of prevention approaches utilizing resistance skills training (e.g., Perry, Killen, Slinkard, & McAlister, 1983; Snow, Tebes, Arthur, & Tupasak, 1992; Sussman, Dent, Stacy, & Sun, 1993). The focus of most studies has been on smoking prevention, with studies typically examining rates of smoking onset, overall smoking prevalence, or an index of smoking involvement (e.g., Hurd et al., 1980; Luepker, Johnson, Murray, & Pechacek, 1983; Telch, Killen, McAlister, Perry, & Maccoby, 1982). For the most part, studies have indicated that the resistance skills prevention approach is capable of reducing smoking by 30% to 50% after the initial intervention, based on a comparison of the proportion of smokers in the intervention group to the proportion of smokers in the control group (Arkin, Roemhild, Johnson, Luepker, & Murray, 1981; Donaldson, Graham, & Hansen, 1994; Sussman et al., 1993). Studies of smoking incidence have shown reductions ranging from approximately 30% to 40%, comparing the proportion of new smokers in the intervention versus control groups. Several studies have demonstrated reductions in the overall prevalence of cigarette smoking for both occasional and regular smoking.

Although fewer studies have assessed the impact of resistance skills training approaches on alcohol or marijuana use, the magnitude of the reductions reported have in many cases been similar to those found for smoking (e.g., McAlister, Perry, Killen, Slinkard, & Maccoby, 1980; Shope, Dielman, Butchart, & Campanelli, 1992). A comprehensive review of resistance skills studies published from 1980 to 1990 reported that the majority of prevention studies (63%) showed positive effects on drug use behavior, with fewer studies showing neutral (26%) or negative effects on behavior (11%). Several studies in the neutral category had inadequate statistical power to detect program effects (Hansen, 1992). Furthermore, several follow-up studies of resistance skills interventions have reported positive behavioral effects lasting up to 3 years (Luepker et al., 1983; McAlister et al., 1980; Telch et al., 1982). On the other hand, data from several longer-term follow-up studies have shown that these effects gradually decay over time (Murray, Pirie, Luepker, & Pallonen, 1989; Flay et al., 1989), suggesting the need for ongoing intervention or booster sessions.

D.A.R.E. The most popular and visible school-based drug education program based on the social influence model is Drug Abuse Resistance Education (Project D.A.R.E.). The core D.A.R.E. curriculum is typically provided to children in the fifth or sixth grades and contains elements of information dissemination, affective education, as well as social influence approaches to drug abuse prevention. D.A.R.E. is distinguished by its use of trained, uniformed police officers in the classroom to teach the drug prevention curriculum. Despite the popularity of D.A.R.E., its effectiveness has been called into question over the past several years. Although some evaluation studies of D.A.R.E. have reported a short-term positive impact on drug-related knowledge, attitudes, or behavior, most of the outcome studies have been of limited scientific value because of weak research designs (e.g., posttest only), poor sampling and data collection procedures, inadequate measurement strategies, and problems in data analysis approaches (Rosenbaum & Hanson, 1998). Several recent evaluation studies of D.A.R.E. using more scientifically rigorous designs (i.e., large samples, random assignment, and longitudinal follow-up) have shown that D.A.R.E. has little or no impact on drug use behaviors, particularly beyond the initial posttest assessment (Ennett, Tobler, Ringwalt, & Flewelling, 1994; Lynam et al., 1999; Rosenbaum, Flewelling, Bailey, & Ringwalt, 1994). Regarding the history of D.A.R.E. evaluation studies, Rosenbaum and Hanson (1998) have pointed out that the stronger the research design, the less impact on drug use behavior that researchers have documented. Although the reasons for the lack of D.A.R.E.'s impact are unclear, some possibilities are that D.A.R.E. is targeting the wrong mediating processes (Hansen & McNeal, 1997), that the instructional methods are less interactive than more successful prevention programs, and/or that teenagers may simply "tune out" what may be perceived as an expected message from an ultimate authority figure.

Competence Enhancement Approaches—An implicit assumption of both the psychological inoculation and resistance skills training approaches is that adolescents do not want to smoke, drink, or use drugs. That is, they begin to use one or more of these substances either because they succumb to persuasive messages or because they lack sufficient skills to resist social influences to use drugs. One limitation of the social influence approach is that it does not consider the possibility that some adolescents may actually *want* to use drugs. For these adolescents, using drugs is not a matter of yielding to peer pressure, but has instrumental value of its own; smoking may, for example, help some young people deal with anxiety, low self-esteem, or a lack of comfort in social situations. Indeed, the etiology literature indicates that drug use/abuse has a complex set of determinants, including a variety of cognitive, attitudinal, social, personality, pharmacological, and developmental factors that serve to promote the initiation and maintenance of substance use (Jessor & Jessor, 1977; Newcomb & Bentler, 1988). Given this complexity, it seems logical that the most effective prevention strategy would be comprehensive, targeting a broad array of etiologic determinants.

In fact, theory and research both indicate that the risk factors for a variety of negative outcomes during adolescence are similar. Jessor's problem behavior theory (Jessor & Jessor, 1977) proposes that drug use, delinquency and other problem behaviors among youth are learned through a process of modeling, imitation, and reinforcement, and that adolescents with poor personal and social skills have an increased susceptibility to these negative social influences. Accordingly, drug abuse and other problem behaviors are conceptualized as resulting from an interplay of social (interpersonal) and individual (intrapersonal) factors. Given this common set of risk factors, many prevention researchers and practitioners have adopted the notion of competence enhancement as an effective way of promoting broad-scale resilience in youth (Kessler, Goldston, & Joffe, 1992; Lorion, 1989). Research has shown that competence enhancement approaches are among the most effective strategies for promoting academic achievement and other positive outcomes (Rathvon, 1999) and may represent the state-of-the-art in prevention for a variety of negative outcomes such as unwanted adolescent pregnancy (e.g., Hayes, 1987, Schinke, 1984), delinquency (Michelson, 1987), and other problem behaviors (Danish, 1997; Weissberg, Caplan, & Harwood, 1991).

Competence enhancement approaches to drug abuse prevention have emphasized the teaching of generic personal and social skills in combination with drug resistance skills. The Life Skills Training program (the model program reviewed later in this chapter) is the most extensively evaluated school-based prevention program that specifically applies competence skills development to the goal of drug abuse prevention (Botvin, Baker, et al., 1995; Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990; Botvin, Schinke, Epstein, Diaz, & Botvin, 1995). A number of other researchers have investigated school-based drug abuse prevention programs that include some degree of competence enhancement, either by itself (Caplan et al., 1992), in combination with resistance skills training (Hansen, Johnson, Flay, Graham, & Sobel, 1988; Kreutter, Gewirtz, Davenny, & Love, 1991; Schinke & Gilchrist, 1983, 1984), or combined with larger parenting skills training and community-wide mass media interventions (Pentz et al., 1989).

Methods. Although these approaches have several shared features with resistance skills training approaches, a distinctive feature of competence enhancement approaches is an emphasis on teaching generic personal self-management skills and social coping skills. These skills are taught using a combination of proven cognitive-behavioral skills training methods: instruction and demonstration, role playing, group feedback and reinforcement, behavioral rehearsal, and extended practice through behavioral homework assignments. Typically included in this prevention approach are decision-making and problem-solving skills, cognitive skills for resisting interpersonal and media influences, skills for enhancing self-esteem (goal-setting and self-directed behavior change techniques), adaptive coping strategies for dealing with stress and anxiety, as well as general social and assertiveness skills. This prevention approach teaches both these general skills and their application to situations directly related to tobacco, alcohol, and drug use. Thus, an added benefit of this type of program is that it teaches adolescents a repertoire of skills they can use to deal with many of the challenges confronting them in their everyday lives, including but not limited to drug use. By teaching generic skills for coping with life that will have broad application, this approach contrasts markedly with resistance skills training approaches that are designed to teach students information and skills relating solely to the domain of drug use.

Effectiveness. Over the years, a number of evaluation studies have been conducted testing the efficacy of competence enhancement approaches to drug abuse prevention. These studies have consistently demonstrated effects on drug use behavior as well as effects on relevant psychosocial risk factors for drug abuse. Several studies evaluating the *Life Skills Training* program have demonstrated behavioral effects on cigarette smoking (Botvin & Eng, 1982; Botvin, Renick, & Baker, 1983), alcohol use (Botvin, Baker, Dusenbury, et al., 1990; Botvin, Schinke, et al., 1995), marijuana use (Botvin, Baker, Botvin, Filazzola, & Millman, 1984; Botvin, Baker, Dusenbury, et al., 1990, 1995), and polydrug use (Botvin, Baker, et al., 1995; Botvin, Epstein, Baker, Diaz, & Williams, 1997), and data indicate that these prevention effects can last up to 6 years (Botvin, Baker, et al., 1995). Other research groups have found that school-based competence enhancement programs are effective for substance use prevention (e.g., Pentz et al., 1989). Schinke, Gilchrist, and colleagues have shown in a series of studies that school-based drug abuse prevention programs that include a competence enhancement focus are effective in reducing drug use behavior (Gilchrist, Shinke, Bobo, & Snow, 1986; Schinke & Blythe, 1981; Schinke & Gilchrist, 1983, 1984; Schinke, Orlandi, Botvin, & Gilchrist, 1988). However, competence enhancement skills training approaches may be effective only if they contain domain-specific (i.e., drug-related) material. A study by Caplan and colleagues (1992) found that a generic competence enhancement prevention program (without drug-specific social resistance skills training content) was not effective in reducing drug use. The resistance skills training may be necessary because it helps students apply generic skills to drug-specific situations and also places emphasis on antidrug norms.

ROLE OF THE SCHOOL PSYCHOLOGIST IN SUBSTANCE ABUSE PREVENTION

Given their diverse job responsibilities, school psychologists often have a unique understanding of the systems in which they function. They know how schools are organized, how the people who work in schools function, and the opportunities and constraints of the school system. They typically have a good understanding of the local organizational hierarchies, rules, and regulations, and know how to maneuver within these constraints to accomplish goals. This ability to work well within complex institutional systems is extremely helpful because large school-based prevention programs involve individuals throughout the school system as well as at home and in the larger community. Below we review several ways in which school psychologists can play an important role in the selection, implementation, and evaluation of school-based drug abuse prevention programs.

The Selection of Appropriate Prevention Programs

School psychologists can draw upon their academic training and professional experience to review potential intervention programs effectively and critically. They often have the knowledge needed to choose appropriate interventions within the context of existing institutional needs and relevant resources and constraints. However, when reviewing potential prevention programs for use in their schools or districts, school psychologists should keep several important criteria in mind in order to select and recommend programs that meet the highest standards. Outlined below are some of the most important questions that should be considered when choosing among prevention programs.

Has the Program Been Properly Evaluated? One problem that has plagued the field of prevention is that, until recently, few high quality evaluation studies had been conducted. In fact, most of the published reports of drug abuse prevention programs in the 1970s and early 1980s had no evaluation component or used evaluation methodologies that were seriously flawed (Schaps et al., 1981). Thus, a prevention program should be considered for adoption within a school or district only if its effectiveness has been demonstrated in an appropriately designed evaluation study. A well-designed evaluation study includes the following features: (a) inclusion of a control group that did not receive the intervention; (b) random assignment of schools to intervention or control conditions; (c) demonstrated pretest equivalence between the intervention and control groups; (d) relatively low attrition rates that are similar across the intervention and control groups; and (e) adequate training and written protocols for those involved in providing the intervention and those who collect the data.

A crucial design component is the inclusion of a control group made up of students who did not receive the intervention. The evaluation study must document that participation in the prevention program reduced the incidence or prevalence of drug use in the intervention group *relative* to a control group that did not receive the program. Because overall rates of drug use virtually always escalate during early adolescence, some increase would be expected even among a group of students receiving a prevention program. A successful prevention program will reduce the *rate of increase* of drug use in those who receive the program compared to a comparison group that does not. Accordingly, an examination of pretest to posttest differences among students receiving a program is not adequate and will be misleading unless one also examines naturally occurring rates of drug use initiation or escalation in a comparable control group.

The best-designed evaluation studies are those that attempt to minimize pretest differences by using random assignment to intervention or control conditions. It is generally advisable to assign entire units (such as schools) to a particular condition in order to avoid contamination across conditions. Prior to random assignment, schools may be grouped or "blocked" on relevant covariates such as school reading levels; for example, schools with the highest reading levels would be randomly assigned to condition, then schools with moderate reading scores would be assigned, and so forth. Studies that use this type of randomized block design are more likely to have equivalent intervention and control groups relative to studies that do not. Whether or not random assignment is used, the evaluation should demonstrate that the intervention and control groups were equivalent on measures of drug use, other risk behaviors, and relevant demographic characteristics at the pretest assessment. This helps to establish that any observed behavioral differences after the intervention were due to the prevention program and not pretest differences. If such pretest differences do exist, they must be controlled for in the statistical analyses.

A well-designed evaluation study will also demonstrate that there was no differential attrition between the intervention and control groups. Youth who drop out of interventions are often at higher risk than those who remain in. Thus if youth in the intervention condition drop out at a higher rate than those in the control condition, the program will appear to be more effective than it really was, particularly if these dropouts were substance users at the pretest measurement. Finally, a cardinal rule of experimental research is the importance of standardization. Intervention and data collection procedures should be documented in written protocols, and individuals involved in providing the program or collecting data must be thoroughly trained to ensure standardization.

Has the Program Shown Effects on Behavior? Many evaluation reports have traditionally focused on knowledge and attitudes without reporting on drug use behavior. Effects on knowledge and attitudes, even in a direction that is consistent with decreased drug use, is increasingly viewed as inadequate evidence of program effectiveness. The outcome measure that is most important is *drug use behavior.* Furthermore, it may be worthwhile to select programs that target multiple substance use behaviors (e.g., tobacco, alcohol, marijuana, and other drugs) and show evidence of effectiveness for more than one substance. In most cases, these programs will be more efficient and less expensive than several single-substance programs such as a separate smoking and alcohol prevention program (Johnson, MacKinnon, & Pentz, 1996). Also, choosing a program that targets multiple substances may be more efficient because many risk behaviors for substance use are interrelated, and an individual's motivation for using or not using drugs is often not specific to a single substance. Although there is a concern that a multicomponent intervention could include too much information and become overwhelming to students, this is probably not a serious concern for well-established programs. A recent comparison of several single-substance, multiple-substance, and general lifestyle/health promotion programs found that multiple-purpose programs were at least as effective as single-substance programs (Johnson et al., 1996).

Are the Behavioral Effects Durable? The initial challenge to the prevention field was to demonstrate that it is possible to reduce tobacco, alcohol, or drug use. With a growing number of reports showing reductions in drug use, the next challenge is to demonstrate the durability of prevention effects. Several longer-term follow-up studies (Ellickson, Bell, & McGuigan, 1993; Flay et al., 1989; Murray et al., 1989) have indicated that prevention effects produced during junior high school erode by the end of high school. There are several possible explanations for this pattern, as reviewed by Resnicow and Botvin (1993). These include (a) the length of the intervention may have been inadequate, (b) booster sessions were either not included or were inadequate, (c) the intervention was not implemented with sufficient fidelity to the intervention model, and/or (d) the intervention model was based on faulty assumptions, was incomplete, or was otherwise deficient.

Based on the results of follow-up studies, some have concluded that school-based interventions alone are not powerful enough to produce lasting prevention effects, and that multicomponent prevention approaches targeting the family and the larger community are preferable (Dryfoos, 1993). Some research suggests that a school-based program combined with community or parent interventions can lead to greater behavioral effects over time. Flynn and colleagues (1994) reported that school-based smoking prevention programming led to less smoking over 2 years of follow-up when it was combined with community-wide radio and television announcements, and the school-plus-media intervention was more effective than the school-only intervention. Furthermore, in the Midwestern Prevention Project (Pentz et al., 1989), a multicomponent program that combined school-based curricula with a parental involvement component and a community-wide media campaign, findings indicated that the school-based component combined with parental participation was associated with decreased use of alcohol and cigarettes among adolescents in the short term (Rohrbach, Hodgson, Broder, & Montgomery, 1994) and produced behavioral effects up to 6 years after the initial intervention (Pentz et al., 1989). However, such multicomponent interventions require greater resources than are available within many schools or school districts, and there is increasing evidence that school-based interventions are capable of producing lasting effects by themselves (e.g., Botvin, Baker, et al., 1995; Botvin et al., in press).

Are There Effects on Hypothesized Mediators? There has been a growing awareness of the need to examine the mechanisms by which prevention programs impact drug use behavior. By examining whether a prevention program leads to changes in various risk factors for drug use (e.g., poor social skills, positive drug use expectancies), researchers can begin to identify to what extent changes in these hypothesized mediating variables lead to changes in drug use behavior (Botvin et al., 1992; Donaldson et al., 1994, 1996; Hansen & McNeal, 1997). Recent papers have examined the impact of the resistance skills prevention approach on several important risk factors or hypothesized mediators (MacKinnon et al., 1991; MacKinnon & Dwyer, 1993). A major strength of the broader competence enhancement evaluation studies is that many have documented program effects on mediators in a direction that is consistent with drug nonuse, including significant changes in knowledge and attitudes, assertiveness, locus of control, social anxiety, self-satisfaction, decision making, and problem solving. Prevention programs with documented effects on hypothesized mediators are preferable because they demonstrate how interventions impact the various skill domains targeted, and provide information on how changes in skill level are related to reductions in drug use.

Is the Program Delivered Interactively? Research has demonstrated that prevention programs that use interactive methods and group processes (e.g., peer discussions, role-playing, interactive games) are more effective than those using more didactic formats (e.g., lectures, films, videotapes). In a recent meta-analytic study of school-based drug programs (Tobler & Stratton, 1997), the largest difference in effect sizes among types of prevention programs was found between interactive and noninteractive programs, with programs using group processes and classroom dynamics to deliver program content proving to be much more effective than programs without interaction. This meta-analysis concluded that successful drug abuse prevention programs foster interaction among peers and utilize interactive techniques to stimulate the active participation of students (e.g., in classroom discussion, in practicing new behaviors). Structured small group activities were found to be an optimal way to introduce program content and promote the acquisition of skills.

One way to facilitate interaction and discussion among peers is to use same-age or slightly older peer leaders as program providers or discussion leaders. Because adolescence is a time characterized by some degree of rebellion against adult authority figures, peer providers often have greater credibility than adults when discussing issues of behavior and lifestyle decisions among junior high school–age students. Peer providers may also serve as influential role models that can help to alter school norms regarding drug use and its social acceptability. However, because peer providers may lack the teaching, motivational, and classroom management skills that adult providers possess, they may function best as assistants to adult program providers who supervise them and give them well-defined responsibilities.

Is the Program Appropriate for the Prevention Goals? As reviewed above, the age of onset and developmental progression of drug use tends to follow a logical and predictable sequence beginning with experimentation with alcohol, tobacco, and marijuana. Thus, early prevention interventions should focus on these substances, which typically begin to be used during the middle/junior high school years. Not surprisingly, substance use prevention programs are frequently delivered to students in the first year of middle or junior high school. These primary prevention programs logically target the use of cigarettes, alcohol, and marijuana, not only because these are the most widely used substances in our society, but also because preventing the use of these "gateway" substances may in turn reduce or eliminate the risk of using drugs later in this progression (i.e., illicit or dependency-producing drugs).

However, a criticism of school-based drug abuse prevention programming is that if different youth have differing levels of needs, then one prevention program may not be adequate for children and adolescents along a spectrum of risk. To address this issue, three types of prevention "tiers" have been utilized in recent years to categorize prevention interventions: universal, selective, and indicated programs. Universal interventions are primary prevention programs delivered to the general population, selective interventions are targeted to "at-risk" youth who show signs of potential drug involvement, and indicated interventions are targeted to those who already are involved in drugs. The focus of this chapter is on universal programs for middle school youth. However, selective and indicated prevention programs are probably more appropriate for youth at highest risk for drug use (i.e., those with poor school performance) and for those who already have initiated regular drug use. Programs for these youth (usually high school students) address the intrapersonal motivational variables (e.g., affect regulation) that play a role in maintaining or escalating drug use/abuse, and place little emphasis on resistance skills training. These programs may target specific motivational factors for using drugs by emphasizing social network development and group support, skills training (decision making, interpersonal communication), and emotional well-being. Some take the form of a semester-long "personal growth" class (Eggert, Seyl, & Nicholas, 1990; Eggert, Thompson, Herting, & Nicholas, 1994; Thompson, Horn, Herting, & Eggert, 1997). For those youth at highest risk, such as high school students who are unable to remain in the regular school system and attending continuation high schools, indicated prevention programming that provides drug counseling in addition to addressing motivational factors through support and skills training may be optimal (e.g., Sussman, 1996).

Much less is known about the utility of drug abuse prevention interventions with elementary school populations, although antidrug curricula have been developed for third graders (Rollins et al., 1994) and even for children in the preschool years (Hall & Zigler, 1997). More studies, although still limited in number, have been conducted with fifth and sixth graders (Campanelli, Dielman, Shope, Butchart, & Renner, 1989; O'Donnell, Hawkins, Catalano, Abbott, & Day, 1995; Shope et al., 1992). One reason for the relative lack of attention to younger children is that base rates of drug use are typically very low during elementary school, making it extremely difficult to demonstrate significant program effects on behavior among these youth. However, several of the existing programs for young children have shown an impact on drug knowledge and antidrug attitudes.

The Dissemination and Implementation of Prevention Programs

There are a number of challenges that can interfere with the widespread dissemination and implementation of effective school-based prevention programs. One difficulty may be the lack of an appropriate infrastructure and staff at the school and school district levels (Elias, 1997). A recent U.S. Department of Education study evaluated a sample of 19 school-based prevention programs provided to more than 10,000 students in 19 school districts that received funding under the Drug-Free Schools Act (Silvia & Thorne, 1997). Several factors were identified by researchers that appeared to facilitate the implementation of prevention programming. These included: (a) the level of community involvement in the program; (b) the level of support for prevention programming at the school district level as shown by the provision of prevention coordinators and adequate staff training; (c) the leadership provided by the prevention program coordinator and the presence of staff to assist the coordinator; and (d) the level of commitment of the program implementers. Because school psychologists typically work directly with school administrators, teachers, parents, students, and others, they are in an excellent position to marshal support for prevention activities across each of these groups and are in a good position to provide ongoing consultation to the various parties that are involved in implementing school-based prevention programs.

Once a program is adopted by a school or school district, school psychologists can help to ensure that the intervention is adequately implemented and appropriately evaluated. Maximizing the quality of program implementation is crucial to program success. Regardless of how effective a prevention program actually is, it is not likely to produce the desired behavioral results unless it is provided to students in full and according to protocol. In addition to the barriers mentioned above, implementation can be affected by a variety of factors such as inadequately trained program facilitators. The school psychologist can play an important role by being closely involved in the training of program providers, and by observing, providing feedback, and helping to motivate providers as they implement the program. The school psychologist can assess program implementation rates (or train others to do so) by documenting how effectively the program is delivered. For example, a checklist of program content and goals can be used to document the proportion of each prevention lesson plan that is actually delivered to students and the quality of instruction can be assessed as well. These factors are important because several studies have shown that students who receive higher amounts of programming are more likely to show behavior changes in drug use (Botvin, Baker, Dusenbury, et al., 1990, 1995; Pentz, Trebow, Hansen, & MacKinnon., 1990).

MODEL PROGRAM

The *Life Skills Training* (LST) program is an adolescent drug abuse prevention program that is provided in school classrooms. The LST program was designed to have a major impact on the individual-level *personal factors* shown in Figure 1. The program is a *primary* prevention program that targets individuals who have not yet developed drug abuse problems by impacting on risk factors associated with the early stages of drug use. The LST approach is also a universal intervention in that it is designed for all individuals in a given setting rather than a selective or targeted intervention, which is only for individuals at "high risk."

Overview of Life Skills Training

The LST prevention program consists of three major components. The first component is designed to teach students a set of general self-management skills; the second focuses on general social skills. These two components are designed to enhance overall personal and social competence and to decrease motivations to use drugs and vulnerability to prodrug social influences. The third component of LST includes information and skills that are specifically related to drug use; these are included to promote drug resistance skills, antidrug attitudes, and antidrug norms. The LST program consists of 15 to 17 class periods (about 45 minutes each) and is intended for middle or junior high school students. In addition to the initial year of intervention in grade 7, the LST approach contains an additional 2 years of booster intervention designed to reinforce the material covered during the first year. This consists of 10 booster sessions in grade 8 and five in grade 9. For school districts with a middle school, the LST program can be implemented with students in grades 6, 7, and 8.

Program Components—Below is a brief description of the major components of the LST program.

Personal self-management skills. The personal skills component of the LST program is designed to impact on a broad array of self-management skills. To accomplish this, the personal skills component contains material to (a) foster the development of decision making and problem solving (e.g., identifying problems, defining goals, generating alternative solutions, considering consequences); (b) teach skills for identifying, analyzing, and resisting media influences; (c) provide students with self-control skills for coping with anxiety (e.g., relaxation training) and anger/frustration (e.g., inhibiting impulsive reactions, reframing, using self-statements); and (d) provide students with the basic principles of personal behavior change and self-improvement (e.g., goal-setting, self-monitoring, self-reinforcement).

Social skills. The social skills component is designed to impact on several important social skills and enhance general social competence. This social skills component contains material designed to help students improve general interpersonal skills such as how to overcome shyness and how to give and receive compliments. This material emphasizes the teaching of: (a) communication skills, (b) general social skills (e.g., initiating social interactions and conversational skills), (c) skills related to dating relationships, and (d) verbal and nonverbal assertive skills.

Drug-related information and skills. This component is designed to impact on knowledge and attitudes concerning drug use, normative expectations, and skills for resisting drug use influences from the media and peers. The material contained in this component is similar to that contained in many psychosocial drug abuse prevention programs that focus on the teaching of social resistance skills. Included is material concerning the (a) short- and long-term consequences of drug use; (b) knowledge about the actual levels of drug use among adolescents and adults in order to correct normative expectations about drug use; (c) information about the declining social acceptability of cigarette smoking and other drug use; (d) information and class exercises demonstrating the immediate physiological effects of cigarette smoking; (e) material concerning media pressures to smoke, drink, or use drugs; (f) information concerning the techniques used in tobacco and alcohol advertisements to promote the use of these drugs, along with skills for resisting these influences; and (g) techniques for resisting direct peer pressure to smoke, drink, or use drugs.

Program Materials—Curriculum materials have been developed to standardize the implementation of the LST program and increase its exportability. These materials consist of a *Teacher's Manual and Student Guide* for each year of the program (published by Princeton Health Press). The *Teacher's Manual* contains detailed lesson plans that describe the overall goal and objectives for each session and provide the appropriate content and activities for each intervention session. The *Student Guide* contains class exercises, homework assignments to prepare students for specific sessions and to reinforce the content already covered, as well as reference material for each session. The *Student Guide* also contains goal-setting principles, basic principles of self-directed behavior change, and material for a semester-long "self-improvement" project.

Prevention Methods—The LST program is taught using cognitive-behavioral skills training, facilitated group discussion, classroom demonstrations, and traditional didactic teaching methods. Because the major emphasis of the program is on the teaching of general personal self-management skills, social skills, and drug resistance skills, the most important intervention method is *skills training*. The cognitive-behavioral skills in the LST program are taught using a combination of instruction, demonstration, behavioral rehearsal, feedback, social reinforcement, and extended practice in the form of behavioral homework assignments, as outlined in Table 1.

Intervention Providers, Selection, and Training—A critical element of any effective intervention is the intervention provider. The LST program has been successfully implemented by several different types of intervention providers, including regular classroom teachers (Botvin et al., 1983; Botvin, Baker, Dusenbury, et al., 1990), older peer leaders (Botvin & Eng, 1982; Botvin, Baker, Botvin, et al., 1984), and outside health professionals (Botvin, Eng, & Williams, 1980; Botvin, Schinke, Epstein, & Diaz, 1994). Classroom teachers may be the most logical choice as provider for a school-based prevention program because they are readily available and generally have more teaching experience and better classroom management skills than other potential providers. In selecting program providers, it is important to choose individuals that have demonstrated interest, experience, enthusiasm, and commitment to drug abuse prevention. Providers must also be willing and able to implement the intervention carefully and completely according to the provider's guide, complete the necessary process evaluation forms, and should be interested in serving as positive role models for students. Provider training typ-

Table 1
Classroom Skills Training Techniques

Cognitive/Behavioral Skills Training Steps	**Example: Resisting Peer Pressure to Smoke**
Instruction and Demonstration ☐ Explain a particular skill to students in a careful step-by-step fashion ☐ Provide a clear explanation of when to use the skill ☐ Demonstrate how to perform a particular skill	Explain to students that when someone offers them a cigarette or pressures them to smoke, they can respond in a variety of ways, including saying no firmly and confidently, saying not now, changing the subject, leaving the situation, and so on. Demonstrate that if pressured, one might respond by repeatedly asking, "Why exactly do you think smoking is cool again?"
Behavioral Rehearsal ☐ Provide an opportunity for students to practice the skill ☐ Participate in brief behavioral rehearsal scenarios ☐ Give each student a chance to participate ☐ Observe students practicing	Ask students to break up into small groups. Each student should take a turn in a behavioral rehearsal scenario in which a friend offers him or her a cigarette. If necessary, participate in some of the scenarios with selected students. Go from group to group and observe how individual students respond to the situation and what they say in response to the cigarette offer.
Feedback and Social Reinforcement ☐ Reinforce students for the most positive elements of their performance ☐ Discuss what elements need improvement ☐ Give specific recommendations concerning how to improve ☐ Provide all feedback in a constructive and supportive manner	For one or two students in each group, review what they did well and what they could do better. For example, if a student was not convincing in assertively saying no to the cigarette offer, tell them in a constructive and supportive way that sometimes it is easier to simply make up an excuse and leave the situation.
Extended Practice ☐ Discuss ways to use the skill in everyday situations ☐ Give behavioral "homework" assignments for practice of skill outside of classroom	Ask students which responses to cigarette offers they think would work best in different everyday situations, such as at school, at a party, or with large groups of friends. Ask students to practice one of the techniques in a situation that comes up in the "real world."

ically consists of a 1- or 2-day training workshop to familiarize intervention providers with the prevention program and its rationale, and to provide an opportunity for trainees to learn and practice the skills needed to successfully implement the prevention program (Tortu & Botvin, 1989).

Effectiveness of the LST Approach—The LST program was initially developed in the early 1980s as a smoking prevention program. Initial evaluation studies demonstrated that students who received the LST intervention showed reduced rates of smoking onset and escalation relative to control students, whether the program was delivered by health professionals (Botvin et al., 1980), older peer leaders (Botvin & Eng, 1982) or regular classroom teachers (Botvin et al., 1983). In the latter study, for example, Botvin et al. (1983) examined the efficacy of the LST prevention approach when implemented by regular classroom teachers and when combined with booster sessions for preserving initial prevention effects. Seventh grade students (N = 902) from seven suburban New York schools were included in the study. Significant program effects were found at the initial posttest using a measure of monthly cigarette smoking, and at the 12- and 18-month follow-ups there were intervention effects for monthly, weekly, and daily smoking. Students receiving additional booster sessions had half as many regular (weekly or daily) smokers as those not receiving booster sessions.

Following the initial LST evaluation research on smoking prevention, several studies were conducted to determine the efficacy of the LST prevention approach with other types of substance use. The program was revised and expanded to include content on the use of alcohol and other drugs, including added material on the potential consequences of alcohol use and new skills training scenarios in relation to situations that might promote alcohol use. A series of studies demonstrated that the LST approach is effective in reducing alcohol use. The first of these was conducted with seventh graders from two comparable New York City public schools (N = 239), and the impact of the LST program on alcohol use frequency, episodes of drunkenness, and heavy drinking was examined (Botvin, Baker, Botvin, et al., 1984). Although no effects were evident at the initial posttest, at the 6-month follow-up findings indicated that significantly fewer (54%) experimental students reported drinking in the past month, 73% fewer reported heavy drinking, and 79% fewer reported getting drunk at least once a month. (Botvin, Baker, Botvin, et al., 1984).

As shown in Table 2, research examining the effectiveness of the LST program has been ongoing since the initial reports outlined above, making the LST program one of the most heavily evaluated school-based prevention programs available. Several of the more recent studies have extended the initial work to other problem behaviors including marijuana use (Botvin, Baker, Filazzola, & Botvin, 1990; Botvin et al., 1997), polydrug use (Botvin, Baker, et al., 1995; Botvin et al., 1997), and illicit drug use (Botvin et al., in press). This more recent research has focused on the utility of the LST approach when used with inner-city minority populations (Botvin et al., 1992; Botvin et al., 1997; Botvin, Griffin, Diaz, Miller, & Ifill-Williams, 1999; Botvin, Schinke, et al., 1994, 1995) as well as the long-term durability of the LST prevention model (Botvin, Baker, et al., 1995; Botvin et al., in press). One limitation of the LST program is that its effectiveness has not been independently replicated outside of our research group, although two major replication studies are currently underway.

SUMMARY AND CONCLUSIONS

Substantial progress has been made in school-based drug abuse prevention programs over the past 20 years. It has become clear that some of the most widely used prevention approaches are either ineffective or of unproven effectiveness. Notable among these are traditional prevention approaches that rely on the provision of information concerning the adverse consequences of drug abuse, affective education, or alternatives to drug use. More recent research has demonstrated the efficacy of prevention approaches that focus on psychosocial factors associated with drug use initiation and/or drug abuse. These approaches emphasize the teaching of social resistance skills either alone or in combination with generic personal and social skills. A small number of studies testing the efficacy of these approaches have shown that they are capable of reducing drug use for up to several years, including until the end of high school. Although most of this research has been conducted with cigarette smoking, prevention effects have also been demonstrated for alcohol and marijuana use. Several recent studies have also begun to elucidate the mechanism through which

TABLE 2
Selected Studies Testing the Life Skills Training Program

Source	Subjects	Intervention Approach	Evaluation Design	Results
Botvin et al.(1989); *Public Health Reports*	Minority, Urban; (N = 608)	• 12 sessions in 7th grade	• Pre- and Posttest	Reduced tobacco use; Increased knowledge of smoking consequences; Decreased normative expectations regarding smoking
Botvin, Baker, Filazzola, Botvin (1990); *Addictive Behaviors*	White, Suburban; (N = 998)	• 20 sessions in 7th grade • 10 boosters in 8th	• Pre- and Posttest • 1-year follow-up • Compared peer vs. teacher-led, controls	Reduced tobacco, alcohol, and marijuana use in peer-led sessions with boosters and for females in teacher-led condition; Increased tobacco knowledge and antismoking attitudes
Botvin, Baker, Dusenbury, et al. (1990); *Journal of Consulting & Clinical Psychology*	White, Suburban; (N = 3684)	• 15 sessions in 7th grade • 10 boosters in 8th • 5 boosters in 9th	• Pre- and Posttest • 3-year follow-up • Compared training workshops vs. videotape, controls	Reduced cigarette, marijuana, and alcohol use; Decreased normative expectations; Increased substance use knowledge; Increased interpersonal and communication skills
Botvin et al. (1992); *Health Psychology*	Minority, Urban; (N = 3153)	• 15 sessions in 7th grade	• Pre- and Posttest • School-level analysis	Reduced cigarette use; Decreased normative expectations regarding peer and adult smoking; Increased smoking knowledge
Botvin et al. (1994); *Psychology of Addictive Behaviors*	Minority, Urban; (N = 639)	• 15 sessions in 7th grade	• Pre- and Posttest • Compares generic skills training, culturally focused, controls	Both programs reduced intentions to drink alcohol; Generic program reduced intentions to use illicit drugs; Increased antidrug attitudes; Decreased risk-taking
Botvin, Schinke, et al (1995); *Psychology of Addictive Behaviors*	Minority, Urban; (N = 456)	• 15 sessions in 7th grade • 10 boosters in 8th	• Pre- and Posttest • 2-year follow-up	Reduced current alcohol use and intentions to drink alcohol; Increased drug refusal skills

Table 2 continued on page 288

TABLE 2
Selected Studies Testing the Life Skills Training Program
(continued)

Source	Subjects	Intervention Approach	Evaluation Design	Results
Botvin, Baker, et al. (1995); *Journal of the American Medical Association*	White, Suburban; (N = 3597)	• 15 sessions in 7th grade • 10 boosters in 8th • 5 boosters in 9th	• Pre- and Posttest; • 6-year follow-up	Reduced drug and polydrug use; Strongest effects for those receiving a more complete version of the program
Botvin et al. (1997); *Journal of Child & Adolescent Substance Abuse*	Minority, Urban; (N = 721)	• 15 sessions in 7th grade	• Pre- and Posttest	Reduced current smoking, alcohol, and marijuana use; Reduced polydrug use
Botvin et al. (1999); *Journal of the American Medical Women's Association*	Minority, Urban Girls; (N = 2209)	• 15 sessions in 7th grade • 10 boosters in 8th	• Pre- and Posttest • 1-year follow-up	Reduced initiation of smoking and escalation to monthly smoking;
Botvin et al. (in press); Addictive Behaviors	White, Suburban; (N = 447)	• 15 sessions in 7th grade • 10 boosters in 8th • 5 boosters in 9th	• Pre- and Posttest; • 6.5-year follow-up	Reduced overall illicit drug use; reduced use of hallucinogens, heroin, and other narcotics

these prevention approaches work by assessing the impact on hypothesized mediating variables. Research with these prevention approaches has been tested primarily with predominantly White, middle-class populations. A small number of studies, however, have also provided preliminary evidence of the utility of these approaches with inner-city minority populations. While research has demonstrated that school-based drug abuse prevention programs can work, further research is needed to examine how to maximize these effects and make them last. Furthermore, proven prevention programs are unlikely to have a large public health impact because they are still not widely utilized. An important goal of future research is to identify and overcome the barriers against the dissemination and adoption of proven prevention programs.

RECOMMENDED RESOURCES

Ammerman, R. T., Ott, P. J., Tarter, R. E. (Eds.) (1999). *Prevention and societal impact of drug and alcohol abuse*. Mahwah, NJ: Erlbaum.

This book discusses some of the critical issues in the prevention of substance abuse and reviews interventions for at-risk individuals before they develop serious problems with substance use. The book documents the accomplishments of leading prevention researchers and sets the stage for future progress in prevention science. In addition to an historical overview and a review of the health effects of drug and alcohol abuse, the book reviews the societal impact and response of drug and alcohol abuse. It also reviews primary and secondary prevention intervention programs conducted in a variety of settings, including schools, the workplace, the community, in the military, in prisons, in medical services systems.

Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., & Diaz, T. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a White middle-class population. *Journal of the American Medical Association, 273*, 1106-1112.

This article presents the results from a long-term follow-up study of students that received the Life Skills Training prevention program as seventh graders. Students were assessed on drug use and related measures as seniors in high school, and findings indicated that there were significantly fewer smokers, heavy drinkers, or marijuana users for students who received the LST prevention program during the seventh grade and had booster sessions during the eighth and ninth grades, relative to controls.

Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*, 64-105.

This paper comprehensively reviews the research on risk and protective factors for adolescent substance use, including broad societal and cultural factors, and factors that lie within individuals and their social environments. The findings are reviewed and implications for prevention intervention are discussed.

Kandel, D. (1975). Stages in adolescent involvement in drug use. *Science, 190*, 912-914.

This article reviews the evidence on the progression of drug use among adolescents, including the extent to which "gateway" drugs such as marijuana typically precede the use of other illicit drugs. Findings suggest the existence of four stages in the sequence of involvement with drugs: beer or wine, or both; cigarettes or hard liquor; marijuana; and other illicit drugs.

Newcomb, M. D. & Bentler, P. M. (1988). *Consequences of adolescent drug use: Impact on the lives of young adults*. New York: Sage.

This book provides an excellent and comprehensive overview of the drug etiology literature and reports on a nine-year longitudinal study that examines the consequences of adolescent drug use on functioning in late adolescence and early adulthood. Outcome measures include educational and occupational pursuits (i.e., job satisfaction), mental health functioning, social integration, family formation and marital stability, and criminality and deviance.

Petraitis, J., Flay, B. R., & Miller, T. Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin, 117*, 67-86.

This article reviews the multitude of theories that have been developed to explain why adolescents initiate substance use. These include cognitive theories which describe the role of poor decision-making processes, social learning theories which emphasize the negative influence of substance use role models, personality theories which outline individual vulnerabilities or affective characteristics that lead to drug use, conventional commitment or social attachment theories which outline the processes by which youth withdraw from parents or school and turn to deviant peer groups, as well as several broader theories that attempt to integrate the determinants of adolescent drug use.

Preventing Drug Use Among Children and Adolescents: A Research-Based Guide. National Institute on Drug Abuse; National Institute of Health. Bethesda, MD: Author.

This question-and-answer guide reviews research and theory on the origins and pathways of drug abuse and the application of research results to the prevention of drug use among young people. The guide reviews important concepts and findings in order to assist in the development and implementation of effective drug abuse prevention programs, and also reviews several research-based drug abuse prevention programs with proven effectiveness. It includes descriptions of several effective universal, selective, and indicated prevention programs.

(Available online at *www.nida.nih.gov/Prevention/PREVOPEN.html*)

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CHAPTER 8:

Preventing Early Sexual Behavior:

Sociopolitical Issues and the Design of Empirically Supportable School-Based Interventions

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Because of its association with such problems as sexually transmitted infections (STIs) and adolescent pregnancy, early sexual behavior has been the subject of numerous prevention efforts. Some of these programs focus on safer sex, some emphasize sexual abstinence, and others target negative outcomes, such as unintended adolescent pregnancy, without attempting to change young people's sexual behavior directly. These interventions, and the theories behind them, have been influenced by a variety of factors including research evidence about the antecedents, correlates, and consequences of early sexual activity, political developments such as the Welfare Reform Act, moral rhetoric about family values, and public concern about the social and health problems associated with early sexual behavior.

As social scientists, we advocate the use of empirically supported methods of prevention, and believe that those methods with the most promise are based on theories derived from research on risk and protective factors. Moreover, in considering whether to adopt a prevention approach that emphasizes abstinence, safer sex, or some other strategy, we recommend that practitioners consider the scientific evidence that is relevant to program effectiveness. Ideally, this would involve an objective reading of value-free research results. However, in the context of the politics and rhetoric surrounding adolescent sexuality, it can be quite difficult to interpret the relevant evidence, much less identify any research that is truly value-free. We further recognize the challenges that school-based practitioners may confront when attempting to institute effective preventive interventions addressing this controversial topic. School psychologists need sophisticated knowledge of the scientific evidence, as well as a critical understanding of the political debate surrounding adolescent sexuality. In this chapter, we address both of these issues.

In the first section we assess the feasibility of targeting early sexual behavior through preventive interventions. In doing so, we examine the development of sexuality across the life span, and review evidence connecting sexual behavior to problematic outcomes such as unintended pregnancy and STIs among people of various ages. Then we turn to a discussion of the political forces that influence the goals and strategies of relevant prevention programs at the national, state, and local levels. In the second section, we present the theoretical bases of effective prevention programs, and discuss several of the common elements in empirically supported interventions. In the third section, we describe four models of prevention programs, and outline our recommendations regarding best practice for preventing the problems associated with early sexual behavior in schools and communities. The final section provides an annotated list of resources related to effective prevention programs.

Typically, prevention efforts target behaviors that lead to undesirable outcomes or that are in themselves maladaptive. Substance abuse and violence, for example, are appropriate targets for prevention in that they cause harm and are considered problems in most if not all contexts throughout an individual's life span. Sexual behavior makes a more complicated intervention target since it is not inherently dysfunctional. Some types of sexual behavior are associated with problems at all ages. Examples include unprotected intercourse with multiple partners or coercive sex with a reluctant or powerless partner. Certainly these behaviors are viable targets for prevention programs, much as substance abuse and violence are. In contrast, abstinence-oriented interventions seek to postpone, rather than prevent, behavior that emerges in the course of normal development. Indeed, proponents of such programs explicitly acknowledge that sexual intercourse between (married, heterosexual) adults is acceptable, even desirable. What is not always clear is how these efforts to prevent early sexual behavior fit into a more general understanding of normal, healthy, sexual development. Thus, school-based professionals involved in early-sex prevention programs must reconcile personal values with community standards regarding child and adolescent sexuality and the school's role in addressing these inevitable events. In other words, we are confront-ed by extremely complicated questions that confound morality, cultural expectations, and empirically derived developmental norms: How early is too early, and who should decide?

SEXUAL DEVELOPMENT

There are no simple answers to these questions, but we believe that efforts to prevent early sexual behavior should be informed by evidence about sexual development. In deciding on prevention targets and strategies, it is helpful to know which sexual behaviors are normative among various populations at various ages. The notion that sexuality unfolds over the course of the life span, beginning in infancy or early childhood, remains somewhat controversial but is certainly not new. Researchers and scholars have been discussing and describing childhood and adolescent sexuality since the 18th century if not earlier (Money, 1997).

Today we know that sexual behaviors, such as masturbation and exploratory play with same-sex or opposite-sex peers, are common among young children (Starks & Morrison, 1996). For example, interview data indicate that 49% of boys and 32% of girls have masturbated by the age of 13, and that many begin doing so in early childhood (Arafat & Cotton, 1974). Furthermore, Crooks and Baur (1993) surveyed parents and found that more than 75% had observed their 6- and 7-year-old children engaging in some form of sex play with other children. The types of sex games that are considered normal at this age involve looking at or touching one another's genitals. However, inappropriate sexual behavior in a child may be a sign of sexual victimization (Kendall-Tackett, Williams, & Finkelhor, 1993); behaviors such as oral-genital contact, insertion of objects into the vagina or anus, and imitating intercourse are relatively uncommon among prepubescent children and may be cause for concern (Berliner & Elliott, 1996).

During adolescence, the incidence of masturbation increases, particularly among boys, while sexual behavior with a partner begins to take on more mature forms. With respect to masturbation, Sorenson (1973) found that among adolescents older than 15, 70% of boys and 42% of girls had masturbated at least once. Meanwhile, heterosocial interaction increases as adolescents start spending more of their free time with members of the opposite sex. Among younger adolescents, sexual experimentation often occurs

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in a group context and may involve kissing games such as "spin the bottle." Older adolescents are more likely to participate in paired dating, which typically involves progressively intimate forms of sexual expression (Starks & Morrison, 1996). The progression generally unfolds over several years and follows a predictable pattern, from kissing, to fondling breasts, to genital petting, to intercourse (Moore & Rosenthal, 1993).

While this pattern captures the experience of the majority of American teens, there is evidence of variation. For example, African American adolescents often engage in intercourse prior to genital petting (Smith & Udry, 1985). Moreover, during adolescence a substantial minority of young people become aware of sexual and romantic attraction to members of their own sex. Remafedi, Resnick, Blum, and Harris (1992), for example, found that 10.7% of the high school students they surveyed were unsure of their sexual orientation, 4.5% reported that they were primarily attracted to members of their own sex, 0.7% identified themselves as bisexual, and 0.4% as homosexual. Finally, it should be noted that some adolescents elect to remain virgins. Michael, Gagnon, Laumann, and Kolata (1994) report that as many as 5.8% of young women and 8.3% of young men wait until age 20 or older before initiating intercourse. The above summary offers unambiguous implications for the school psychologist: We must be knowledgeable of child and adolescent sexual development from a normative perspective and realize that various cultural or ethnic subgroups within the population may differ in terms of what is considered normative.

Intercourse

Over the past several decades, the average age at first intercourse has declined while the average age of marriage has increased, contributing to an overall increase in the prevalence of premarital intercourse. For example, Michael et al. (1994) found that 84% of women born between 1933 and 1942 were either virgins or had had intercourse with only one partner when they reached the age of 20, but among women born after 1953, one-half reported having multiple partners by the age of 20. Recent evidence indicates that intercourse among adolescents in the U.S., which had been on the rise during the 1970s and 1980s appears to have stabilized and even declined slightly during the 1990s. Still, adolescents are considerably more likely to have sex now than they were 50 years ago. The median age at first intercourse is 16.5 years for adolescents in the U.S. (Warren et al., 1998), and by age 18, approximately two-thirds have had sex (Alan Guttmacher Institute, 1998).

Adolescent sexual behavior is influenced by a variety of contextual variables. Research reveals that intercourse is probably indicative of social and behavioral problems for some adolescents, while it may be a sign of healthy and prosocial development for others. For example, Small and Luster (1994) found that experience with intercourse increases with age and with the presence of a steady boyfriend or girlfriend. In other words, as adolescents become more mature and enter into exclusive dating relationships, they are more likely to have sex. On the other hand, the same study also revealed that intercourse is associated with alcohol use, low parental monitoring, poor grades, and sexual abuse history. Thus, sexual activity appears more common among adolescents with developmental and behavioral difficulties. Other predictors of adolescent sexual behavior include the perception that peers are having sex (Romer et al., 1994), permissive parental values (Small & Luster, 1994), delinquency, and physical abuse history (Stoiber & Good, 1998).

Intercourse is relatively uncommon among younger adolescents in this country. Before age 13, only 9.4% of boys and 4.5% of girls have had intercourse. However, there exists considerable regional and ethnic variation in these data. For example, in some states fewer than 4% of young people initiate intercourse before age 13, while in other states, more than 20% do so. Also, African Americans tend to experience intercourse earlier than members of other ethnic groups. This is particularly true of African American boys, more than half of whom have had intercourse by the age of 14 (Centers for Disease Control [CDC], 1998a; Warren et al., 1998).

These patterns suggest that the developmental significance of early intercourse may depend on the context in which it occurs. Nevertheless, early intercourse is generally associated with a variety of psychosocial problems. For example, there is evidence that adolescents with histories of sexual victimization and substance use initiate intercourse earlier than their peers (Mott, Fondell, Hu, Kowaleski-Jones, & Menaghan, 1996; Stock, Bell, Boyer, & Connell, 1997). Also, it appears that many adolescents are coerced into early sexual encounters they do not want. For example, one recent study of 15- to 24-year-old women found that nearly one-fourth of the respondents whose sexual debuts occurred before age 14 reported that the experience was not voluntary (Abma, Driscoll, & Moore, 1998).

Practitioners interested in the prevention of early sexual behavior must contend with the complexity and diversity that characterize sexual development. Broadly defined, sexual behavior occurs normally throughout childhood and adolescence. In one sense, then, the prevention of all early sexual behavior is neither practical nor advisable. However, certain types of sexual behavior, such as sexual intercourse, appear to be maladaptive among some young people in certain contexts. Moreover, while intercourse is normative among older adolescents, it is relatively uncommon among younger teens. Taken together, these observations suggest that adolescents who are likely to engage in sexual intercourse at an early age may benefit from preventive services of some kind. However, given that norms for early sexual behavior appear to vary considerably across subgroups, prevention strategies that are effective and appropriate with one group of young people are unlikely to be equally useful in all contexts. Moreover, it would be a mistake to assume that circumscribed programs aimed at the prevention of early intercourse will in turn lead to improvements in areas such as academic achievement and family functioning, and it is highly unlikely that such programs will alleviate the problems associated with a preexisting history of sexual victimization. Instead, comprehensive preventive efforts that simultaneously target several of these developmental problems may be more beneficial. On the other hand, focused interventions have the potential to reduce negative health outcomes that can be caused by discrete behaviors such as unprotected intercourse. We turn now to a discussion of these problems.

NEGATIVE OUTCOMES ASSOCIATED WITH SEXUAL BEHAVIOR

Sexual behavior among adolescents is linked to a variety of undesirable outcomes such as unplanned pregnancy and exposure to STIs including HIV. Evidence of these links has contributed to the perception that adolescent sexuality is maladaptive and should be postponed. The assumption is that if adolescents wait to initiate intercourse, they will either avoid these outcomes or (as in the case of pregnancy and childbearing) they will be older and more prepared to handle them when and if they do occur. A careful review of the extant literature reveals that this assumption is partially, but not completely correct. The rates of unintended pregnancy and STIs are indeed lower among adults than among adolescents, suggesting that delaying sexual involvement may be beneficial. However, these problems do not simply disappear after a particular age; indeed, they are surprisingly common among young adults.

Unintended Pregnancy and Childbearing

It is estimated that nearly one million adolescents in the United States become pregnant each year (Alan Guttmacher Institute, 1998). Henshaw (1998) reported that close to 80% of the adolescent pregnancies that occurred during 1994 were unintended, with about 35% ending in abortion and over 40% ending in unintended births. However, adolescents are not the only group to become pregnant by accident. For example, among women aged 20 to 24 who became pregnant in 1994, 58.5% did not intend to do so, nor did 39.7% of the women aged 25 to 29 who experienced pregnancies that year. Even among married women, nearly one-third (30.7%) of the pregnancies in 1994 were unintended (Henshaw, 1998).

Intended or not, adolescent childbearing appears to be associated with a variety of deleterious outcomes for the young mothers and their children. For example, adolescent mothers are more likely than their same-age peers to drop out of school, to rely on public assistance and to report high levels of psychological distress (Coley & Chase-Lansdale, 1998). Pregnant adolescents are less likely than older women to obtain adequate prenatal health services, and they are more likely to deliver preterm and low-birth-weight infants (Klerman, 1993). Their children are at risk for a number of developmental problems including cognitive delay, school failure, and aggressive behavior (Coley & Chase-Lansdale, 1998; Furstenberg, Brooks-Gunn, & Morgan, 1987). Longitudinal evidence suggests that the negative consequences to early child-bearers may diminish over time, but that the disadvantages observed in their children tend to persist and may even increase as they grow older (Coley & Chase-Lansdale, 1998; Furstenberg et al., 1987).

On the surface, these findings suggest that early pregnancy is maladaptive, and is thus an appropriate target for preventive intervention. However, an alternative interpretation argues that early parenthood per se is not the primary cause of the problems with

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which it is correlated. For instance, several researchers have pointed out that adolescent parenthood is the result rather than the cause of school difficulties and poverty (Geronimus & Korenman, 1992; Scott-Jones, 1991). Others have suggested that for some adolescents, pregnancy and parenthood may actually constitute an adaptive, development-enhancing experience, particularly in cases where socioeconomic constraints have blocked other pathways to adulthood and autonomy (Burton, 1991; Geronimus, 1992). This view calls for a more comprehensive approach to prevention, in which the relevant contextual factors (e.g., educational and economic opportunity) are addressed. Altering sexual behavior and preventing pregnancy may not significantly affect a young woman's developmental trajectory if academic difficulties remain or career options are not improved. School psychologists must recognize that research findings may sometimes be presented with a particular value orientation; many of these phenomena are correlational, yet causal assumptions are often made without empirical support.

Sexually Transmitted Infections and HIV

In the U.S., approximately three million adolescents contract STIs each year (Alan Guttmacher Institute, 1998). STIs that are most prevalent among adolescents include chlamydia, gonorrhea, genital warts, and genital herpes. Chlamydia and gonorrhea are both curable. If left untreated, however, these diseases may lead to Pelvic Inflammatory Disease (PID), which is a major cause of infertility in women. Genital herpes and genital warts are both caused by viruses, and while their symptoms can be treated, the viruses remain in the body indefinitely. This means that the symptoms often reappear, and the viruses may be passed on to future sex partners. Also, women with genital warts have an increased chance of developing cervical cancer, and both of these viruses may lead to complications during childbirth, as they can be transmitted to infants in the birth canal (Moore & Rosenthal, 1993).

In 1997, more than 167,000 cases of chlamydia, and more than 94,000 cases of gonorrhea were diagnosed in U.S. adolescents between the ages of 10 and 19. The rates of infection for both chlamydia and gonorrhea are higher among 15- to 19-year-olds than any other age group (Division of STD Prevention, 1998), and hospitalization for PID is more common among adolescent women than among adult women (Alan Guttmacher Institute, 1998). However, these diseases affect a large number of young adults as well. For example, more than 130,000 cases of chlamydia and more than 68,000 cases of gonorrhea were diagnosed among 20- to 24-year-olds in 1997 (Division of STD Prevention, 1998).

AIDS is the sixth leading cause of death among adolescents in the U.S. (Schinke, Forgey, & Orlandi, 1996). In December 1998, there were more than 3,400 adolescents living with symptomatic AIDS in this country. However, due to the virus' modal 9.5-year postexposure latency period, almost all HIV-infected adolescents remain asymptomatic *and undetected* throughout their tenure in the school setting. Indeed, most of these students will not become aware of their seropositive status until later in adulthood. Unfortunately, the sexually active HIV-infected teen will be most contagious within 10 days following his or her first exposure to the virus (a time before the emergence of HIV antibodies). Thus, infected students who are sexually active with multiple partners can dramatically affect the epidemiology of this STI.

High adolescent rates of other STIs with short incubation periods (e.g., gonorrhea, syphilis, chlamydia) suggest that American youth are frequently practicing behaviors that also place them at risk for HIV infection. Clearly, issues regarding adolescent health and risk-taking behaviors are important foci for the public school curriculum, and the expertise of school psychologists may be crucial for the success of these prevention programs. Although the number of adolescents with HIV infection is not known, the prevalence of other STIs is probably indicative of high rates of HIV infection in this age range. This inference is based on the fact that STI infection implies unsafe sexual contact which could also lead to HIV transmission, and the fact that such diseases as gonorrhea, PID, and genital herpes often produce lesions in the genital area, which increases vulnerability to HIV infection following exposure (Schinke et al., 1996). Consistent with this, we know that heterosexual contact accounts for about one-half of all HIV infections in adolescent girls and young women. Intravenous drug use is the other major cause of infection in this group (CDC, 1998b).

Adolescents and Risky Sexual Behavior

The aforementioned epidemiological evidence suggests that adolescents may be more likely than adults to engage in those sexual behaviors that are associated with increased risk of unintended pregnancy and STI transmission. Indeed, behavioral research reveals a negative association between sexual risk-taking and age.

For example, in a recent study of women's contraceptive behavior, Glei (1999) found that adolescents in the 15-to-17 age range were less likely than older women to use birth control, and those who did use it were more likely to do so sporadically. Furthermore, young women between the ages of 20 and 24 were less likely than older women to use birth control consistently.

Substance use appears to play an important role in sexual behavior for some adolescents. For example, the CDC (1998a) found that nearly 25% of sexually active teens reported that they used alcohol or drugs the last time they had intercourse. Since substance use often leads to impaired judgment and lowered inhibitions, this finding may help explain the difficulty that many adolescents experience with consistent contraceptive use. In addition, substance use is associated with having multiple sexual partners. This is important because having multiple sex partners is a risk factor for STI transmission, and one that appears to be more common among adolescents than adults (Forrest & Singh, 1990). Another correlate of multiple partners is early age at first intercourse. For example, Santelli, Brener, Lowry, Bhatt, and Zabin (1998) found that young people who began having intercourse at an early age and those who used controlled substances were more likely than their peers to have multiple sexual partners.

In general, although sexual risk-taking does not disappear with the onset of adulthood, it is particularly prevalent among sexually active youth. Thus, interventions that encourage adolescents to postpone sexual activity may also be successful in reducing the overall incidence of these risky behaviors. On the other hand, abstinence-oriented programs may not adequately prepare young people to avoid putting themselves at risk once they do begin having sex. Since some sexual risk-taking continues to occur in adulthood, safer sex interventions might prove to be the more powerful prevention strategy in the long run.

THE POLITICS OF PREVENTING SEXUAL BEHAVIOR

In the field of prevention science, few topics are as fraught with political and moral undertones and heated debate as those related to the sexual behavior of American adolescents. We have all heard that adolescent pregnancy has reached epidemic proportions, that our teens are in danger of contracting and spreading life-threatening diseases, and that these problems are somehow tied to the moral decay of society, and the deterioration of cherished institutions such as marriage, religion, and the family. It has been posited by some (e.g., Reppucci, 1987) that the political atmosphere surrounding this topic has clouded our understanding of the relevant issues and may even interfere with efforts to improve outcomes for adolescents. For example, Fine (1988) argued that the public discourse on adolescent sexuality has been limited in its focus on the potentially violent and dangerous elements of sexual behavior, and on certain moral issues, to the exclusion of any discussion of the developing sexual desire that virtually all humans experience as they approach adulthood. Typically, one finds in a sex education curriculum "(1) the authorized suppression of a discourse of female sexual desire; (2) the promotion of a discourse of female sexual victimization; and (3) the explicit privileging of married heterosexuality over other practices of sexuality" (Fine, 1988, p.30). Female students are not perceived as active sexual agents, but as sexual victims devoid of normally developing sexual drives. Inherent in this sexuality-as-violence perspective is the presumption of a causal relationship between official silence regarding student sexuality and a decrement in sexual activity (i.e., if we don't teach about sex, it will not occur) (Fine, 1988).

According to Fine (1988), a curriculum that attends to female sexuality should encourage female students to consider what feels good and what does not, what is desirable and warrants pursuit versus what should be avoided, and these should be discussed in school in the context of individual sexual experience and needs. This approach to sex education is designed to release females from their traditional, passive role in which they are recipients of other people's sexuality to one in which they initiate and negotiate their own sexual behavior based on assessment of pleasure and cost-benefit analysis. It is obvious that this "discourse of desire" is rarely found in U.S. classrooms. Indeed, even though polls throughout the nation indicate that 80–90% of adult respondents support the notion of sex education in schools (with components addressing disease prevention through contraception), most school boards are under intense pressure to ensure that the curricular focus of teen pregnancy prevention is on abstinence-only education (Donovan, 1998).

The silencing of this discourse is exemplified in a variety of recently developed programs and policies that seem to fly in the

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face of common sense. For instance, Donovan (1998) describes several abstinence-only programs that rely on scare tactics. One curriculum includes a video that attempts to silence desire by telling students that if they want to have premarital sex, they'll "just have to be prepared to die." The Welfare Reform Act provides funding for abstinence-only interventions that teach that "a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity" (DiClemente, 1998, p. 1574), and as of March 1998, 20 state legislatures had enacted abstinence-only sex education bills (Donovan, 1998). Given that most Americans do not marry until their mid-20s or later, this standard is clearly unrealistic, and simply ignores the sexual desires of many mature adults. In recent memory, however, the discourse of desire was most decisively silenced when U.S. Surgeon General M. Joycelyn Elders, M.D., was fired by President Clinton after she made the provocative remark that "masturbation is something that is a part of human sexuality, and is a part of something that perhaps should be taught" (i.e., as a way to reduce the spread of AIDS) (see Zytkow, 1995, for details). Clearly, many believe that school-based sex education should not address masturbation. School administrators and teachers are feeling intense pressure regarding the debate about these controversial issues.

Unfortunately for practitioners, these examples illustrate that what appears politically viable may conflict with what is scientifically and logically justifiable. In attempting to intervene on behalf of the health and well-being of young people, one may run into formidable obstacles in the form of political, religious, and moral concerns about adolescent sexuality. In an ideal world, we would simply recommend the selection of interventions on the basis of empirically supported effectiveness. However, we recognize that this recommendation is not practical in all contexts, and that political considerations do influence intervention choices. A prevention program may be scientifically "proven" to reduce pregnancy, STIs, or early intercourse, but if its methods are not acceptable to relevant parent groups, students, administrators, and community leaders, its effectiveness will be greatly compromised.

On the other hand, political decisions are sometimes made on the basis of faulty assumptions about majority opinion. For example, there is ample evidence that most parents want their children to be exposed to sexuality education that includes information about STI prevention and contraception (e.g., Algozzine, Berne, &

Huberman, 1995; Donovan, 1998), yet many administrators and practitioners may be afraid to implement such programs because they believe that parents would complain. In light of these concerns, it seems particularly important that school-based practitioners become informed about what types of interventions their constituents (e.g., parents, students, teachers, administrators, community leaders) want, and what they will tolerate. Professionals who are thus informed, and familiar with a variety of intervention strategies, will then be able to select techniques with adequate empirical support as well as social acceptability.

EFFECTIVE STRATEGIES

In light of the political and epidemiological complexity associated with early sexual behavior and its potential consequences, we believe that it is essential to consider a variety of prevention techniques. While abstinence may be effective and acceptable in some contexts, other approaches are probably more appropriate in other contexts. The practitioner who is armed with a range of strategies will have the best chance of selecting the approach that is most valid given the particular prevention needs and political climate of the respective community. To that end, this section presents an overview of the theoretical underpinnings and characteristics of a number of sexual risk reduction and pregnancy prevention programs that have been demonstrated to be effective in various contexts. In recognition that the effectiveness of different intervention techniques is likely to vary depending on the risk status, needs, and other characteristics of the adolescent participants, we close this section with a presentation of potential aptitude-by-treatment interactions (ATIs) that should be considered before selecting which strategy or strategies to adopt.

Theoretical Bases of Effective Programs

Social Learning Theories—In a review of the literature evaluating various school-based sexual risk reduction interventions, Kirby and his colleagues pointed out that effective programs tend to be guided by well-developed theories of behavior change (Kirby et al., 1994). In particular, they identified a number of effective programs that are based on social learning theories. The authors explained that these theories emphasize the role of such factors as knowledge, outcome expectancy, self-efficacy, and social influences in shaping behavior. In the realm of sexual risk reduction, these concepts generate such questions as: Does the adolescent know what risks are associated with unsafe sexual behavior and how to avoid these risks (knowledge)? Does the adolescent think that the benefits of avoiding unsafe sexual behavior outweigh the costs (outcome expectancy)? Does the adolescent believe in his or her own willingness and ability to effectively avoid unsafe sexual behavior by using specific strategies such as refusing sexual advances, communicating with a partner, or using condoms (self-efficacy)? How do factors such as peers and the media influence the adolescent's sexual behavior choices (social influences)?

In their discussion of social learning theory and its application to health promotion interventions, Perry, Baranowski, and Parcel (1990) described several important mechanisms through which social and environmental factors may influence behavior. For example, they discussed reinforcement, observational learning, and reciprocal determinism. Attention or positive feedback from peers could be a potent reinforcer for engaging in (or avoiding) risky sexual behavior. Observational learning may come into play if adolescents imitate the sexual behavior they observe among their friends or on television, in music, movies, or magazines. Likewise they may avoid sexual risks if they are exposed to models of such behaviors as abstinence or condom use. Reciprocal determinism refers to the interdependence and multidirectional influences among a person's characteristics, his or her behavior, and the environment. Schinke et al. (1996) described one way in which reciprocal determinism may influence risky behavior among adolescents. Specifically, an adolescent may incorrectly believe that sexual risk-taking is the norm among his or her peers. This belief may influence the person's behavior, increasing the odds that he or she will engage in sexual risk-taking. If a number of adolescents hold this belief, then sexual risk-taking may become the norm. In this example, personal characteristics (beliefs) influence behavior (sexual risk-taking) and the environment (group norms).

Health Belief Model—A number of sexual risk reduction interventions (e.g., Eisen & Zellman, 1992; Walter & Vaughan, 1993) are based on the *health belief model*, which relates several social learning concepts to health-related behavior specifically

(Rosenstock, 1990). According to this model, health-related behavior (e.g., seeking medical advice, exercising, accessing preventive screening services, taking medication, or using condoms) is a function of the person's perception of threat and an analysis of the costs and benefits of the behavior in question. Perceived threat is based on the person's assessment of personal risk and severity of the outcome. In other words, if the person believes that he or she is likely to experience a particular health problem, and also believes that the health problem would be very unpleasant or undesirable, this increases the odds that protective action will be taken. According to this model, simply knowing the statistical odds of a particular health problem does not always result in a sense of personal risk. An adolescent who knows the prevalence of a particular STI, for instance, but believes that "it won't happen to me," is unlikely to avoid sexual risk-taking. Also, if personal risk is perceived, but the health problem is not believed to be severe, then protective behavior may not follow. An adolescent girl who believes that she is likely to become pregnant is unlikely to take precautions unless she views pregnancy as an undesirable outcome. In assessing the costs and benefits of a particular health-related behavior, the person considers the effort involved, the possible side effects, and the likelihood that it will be effective. For example, adolescents may not use condoms if they believe that they interfere with sexual pleasure, cost too much, are likely to tear, or are inconvenient.

Social Inoculation—Another theory that applies elements of social learning theory to specific health-related behavior is the theory of social inoculation. Interventions based on this theory (e.g., Howard & McCabe, 1990; Kirby, Barth, Leland, & Fetro, 1991) focus on the role of social and peer pressures in adolescents' health-related risk-taking. In their efforts to reduce the influence of these pressures, an approach that is analogous to medical immunization is used: If young people are exposed to small doses of negative influences, they will have a better chance of resisting those influences in the future. Exposure may involve analyzing the messages about sexuality that are present in television or magazine advertisements, or discussing common "pick-up lines" and possible responses. In addition to mere exposure, social inoculation is accomplished through helping young people examine critically these harmful social influences and develop skills they can use to resist these pressures.

Cognitive Behavioral Theory—While skill training is an important component of social inoculation theory, it is the cornerstone of cognitive behavioral theory. In general, this theory emphasizes the ways in which an individual's thoughts and behaviors influence one another, and posits that changes in cognition or behavior or both can lead to improved functioning. In the context of sexual risk reduction interventions (e.g., Gilchrist, Schinke, & Blythe, 1985; St. Lawrence, Jefferson, Alleyne, & Brasfield, 1995), this approach focuses on the cognitive and behavioral skills required to avoid risky sexual behaviors. The skills that are considered important include self-management, problem solving, decision making, anticipating the possible outcomes of various behaviors, accurately assessing risk, communicating effectively, and the correct use of condoms. Interventions that emphasize skill practice in the form of such activities as role-plays and in vivo homework assignments are expected to be particularly effective.

Problem Behavior Theory—One final theoretical perspective that should be mentioned in this discussion is known as *problem behavior theory* (Jessor, 1987). This theory differs from the preceding theories in two important ways. First, it considers the role of a number of contextual factors such as family structure, parent-child relationship quality, religious affiliation, and socioeconomic status in addition to peer group influences. Second, its focus is not limited to sexual behavior, but instead attempts to explain the development of a number of potentially problematic behaviors including substance use and delinquency. Problem behavior theory posits that these diverse behavioral outcomes may be the result of common developmental pathways involving individual- and environment-level risk factors. At the individual level, adolescents who place a low value on academic achievement and a high value on independence tend to have an external locus of control with low self-esteem, do not expect to succeed academically, tolerate deviance, are not religious, and are prone to problem behavior. At the environment level, adolescents who perceive their parents as unsupportive, whose parents and friends are incompatible, whose behavior is more influenced by friends than by parents, and whose friends approve of and engage in problem behavior are considered likely to engage in problem behavior themselves.

This theory is compatible with a broad, developmental approach to intervention in which sexual behavior is viewed not in isolation but in relation to other potentially problematic behaviors with common antecedents. In this approach, sexuality need not be addressed directly. Instead, interventions may seek to modify salient risk factors such as deviant peer-group affiliation, parent-child relationship problems, or academic difficulties. An advantage of this approach is the possibility of addressing multiple problems simultaneously. In the *Model Programs* section of this chapter we describe an intervention that uses this strategy to prevent adolescent pregnancy and academic failure (i.e., Allen, Philliber, Herrling, & Kuperminc, 1997).

Characteristics of Model Programs

In recent years, several authors have reviewed research on interventions aimed at adolescent pregnancy prevention (Franklin, Grant, Corcoran, Miller, & Bultman, 1997; Frost & Forrest, 1995) and sexual risk reduction (Kirby et al., 1994), drawing conclusions about specific programs that have been shown to be effective and the characteristics that differentiate these from less effective approaches. In this section we summarize the key findings and conclusions of these reviews.

Sexuality Education—One aim of many preventive interventions is to increase adolescents' knowledge about sexuality. This often involves presenting information about physical maturation, reproduction, contraception, and STIs (specifically, symptoms and transmission mechanisms). Although it is well documented that educational efforts can effectively increase adolescents' sexuality-related knowledge, it is also recognized that young people do not change their sexual behavior on the basis of knowledge alone (Schinke et al., 1996). Nevertheless, effective interventions do tend to include educational components that provide accurate information about the risks associated with unprotected intercourse and methods to avoid these risks (Frost & Forrest, 1995; Kirby et al., 1994), suggesting that increased knowledge may be a necessary but not sufficient ingredient in the prevention of unsafe sexual behavior. Kirby et al. (1994) also observed that effective programs tend to use active learning techniques to present sexuality information. Examples include group discussions, role-playing, and in vivo skill practice (e.g., going to stores or clinics to practice accessing birth control). Gilchrist et al. (1985) pointed out that actively involving adolescents in the learning process helps them personalize the information that is presented.

A concern about sexuality education raised in some communities is that teaching young people about sex and birth control may convey the message that it is acceptable to initiate intercourse during adolescence, thereby increasing the rates of early sexual behavior. The available evidence suggests that this concern is unfounded. For example, Kirby et al. (1994) examined eight programs with sexuality education components and found that none of these led to increased frequency of intercourse among participants. Similarly, Franklin et al. (1997) concluded that pregnancy prevention programs do not significantly increase rates of sexual activity, and that this is the case regardless of whether the programs emphasize abstinence or sexuality education.

Access to Condoms and Other Contraceptives—Frost and Forrest (1995) pointed out that the majority of effective pregnancy prevention programs provide access to contraceptive services, often through school-based or school-linked clinics. Consistent with this, Franklin et al. (1997) concluded that programs that provide information about and access to contraception are more successful than other programs if increasing contraceptive use to reduce pregnancy is the objective. The same concerns that have been raised about sexuality education are also relevant here. Indeed, distributing birth control in schools is a highly controversial strategy, often thought to condone and promote early sexual behavior. However, research indicates that providing adolescents with access to contraception does not result in increased sexual activity. For example, Schuster, Bell, Berry, and Kanouse (1998) reported that after condoms were distributed in an urban high school, the rate of intercourse among students remained stable while the rate of condom use among sexually active students increased.

Interpersonal Skills—Many effective programs include training in interpersonal skills that are of particular relevance to sexual risk reduction. These include decision making, negotiation, communication, and refusal of sexual advances (Frost & Forrest, 1995; Kirby et al., 1994). The training generally involves modeling, instruction, and various types of skill practice.

Intervention Setting—Prevention programs that target sexual behavior are often delivered in schools or community-based clinics or hospitals. Some involve widespread community participation, while others are more circumscribed and may only involve classroom instruction. In their description of effective pregnancy prevention programs, Frost and Forrest (1994) identified effective school- and clinic-based curricula, as well as successful approaches for school/community agency collaboration. Their analysis suggests that effective programs may be conducted in a variety of settings, and that many effective programs are school based. However, the results of Franklin et al.'s (1997) meta-analysis indicate that community-based and clinic-based programs are more effective than school-based programs in increasing adolescents' use of contraception. This result suggests that collaboration with community agencies, such as health clinics, business leaders, religious organizations, and parents, may facilitate school-based prevention efforts.

Involving Parents—Interestingly, in many of the prevention programs examined in these reviews, the involvement of parents is minimal or nonexistent. This omission seems particularly salient in light of evidence that parent behaviors such as monitoring and communication are important predictors of adolescent sexual risk-taking (e.g., Romer et al., 1994; Small & Luster, 1994). It seems plausible that prevention efforts might be enhanced if parents were to play a greater role. Possible strategies could include educating parents about their potential influence on their children's sexual behavior, training parents to increase their ability to monitor their children's behavior, or providing sexuality education to parents, which might enhance their confidence about discussing sex and birth control with their adolescents.

Role of Values—In general, effective programs are not value-neutral. Kirby et al. (1994) argued that this is one of the most salient differences between effective and ineffective programs. Instead of encouraging students to make individually based decisions about sexual behavior, effective programs take a clear stand regarding what is and is not appropriate, and they actively seek to shape group norms. Frost and Forrest (1995) concluded that effective programs specifically emphasize abstinence as the best way for adolescents to avoid unwanted pregnancy and STIs. This may seem surprising or even contradictory given the role that birth control information and access apparently play in program effectiveness. However, many effective interventions simultaneously advocate abstinence and sexual responsibility. They teach that abstinence is the best choice, but they also encourage adolescents to practice safer sex should they choose to become sexually active.

The relative emphasis that is placed on abstinence as opposed to safer sex varies significantly from program to program. Kirby et al. (1994) pointed out that effective programs promote norms and values that are appropriate for the specific populations they target. For example, an intervention aimed at middle school students who are predominantly virgins places the most emphasis on abstinence (Howard & McCabe, 1990), while interventions aimed at high-risk teens who are predominantly sexually experienced stress condom use and other risk-reduction strategies (e.g., St. Lawrence et al., 1995; Walter & Vaughan, 1993).

Summary of Effective Strategies—Because the effectiveness of any particular prevention strategy is likely to depend upon a variety of contextual factors, it seems potentially misleading to identify a set of "most effective" program characteristics. What is most effective in one context might be quite ineffective in another. However, some general patterns do emerge from the above discussion, and are worth summarizing. In general, school-based practitioners are advised to consider the following program components and strategies (See Kirby et al., 1994, for a similar list of key program characteristics):

- ☐ *Theoretical basis:* Effective programs tend to be theory-driven. Many rely on social learning theories, which emphasize the role of social influences (e.g., peers, mass media), and personally relevant knowledge about risks and risk-reduction strategies.
- ☐ *Access to contraception:* Although some school districts may not allow this, effective programs tend to facilitate students' access to condoms and/or other contraception methods.
- ☐ *School versus clinic setting:* Evidence is mixed regarding which location is best, but if increased contraception/condom use is a central goal, and school-based distribution of these items is not feasible, then collaboration with school-linked clinics, or community-based preventive services should be considered.

- *Sexuality education:* Although education alone does not change sexual behavior, it is a prerequisite for behavior change according to most theoretical models. The majority of effective prevention programs include sexuality education components.
- *Interpersonal skills training:* Effective programs tend to provide training in skills such as communication, negotiation, and refusal.
- *Active learning and skill practice*: Effective programs tend to offer opportunities for students to participate actively in the learning process and to practice skills in simulated (e.g., role-play) or real-life situations.
- *The question of values*: Effective programs emphasize values that are appropriate to the needs of the target audience (e.g., abstinence vs. safer-sex). There is evidence that a totally value-free decision-making approach is less effective than one that presents clear messages about sexual responsibility (Kirby et al., 1994).
- *Involving parents:* Obviously, parents play an important role in shaping their children's behavior in general and sexual development in particular. Practitioners should consider creating opportunities for parents to participate and collaborate in the selection, development, and implementation of prevention programs.

Potential Aptitude-by-Treatment Interactions

The importance of promoting norms that are appropriate to the target audience underscores the general notion that the effectiveness of a given prevention strategy is likely to vary depending on the context in which it is implemented and the characteristics of the participants. What follows is a discussion of several factors that might moderate the effectiveness of different prevention methods.

Demographic Factors—Factors such as age, gender, and ethnicity influence adolescent sexual behavior and should thus be taken into consideration when selecting and developing prevention strategies. For example, there is evidence that older adolescents are more likely than those under age 14 to show improvement in contraceptive use following preventive interventions (Franklin et al., 1997). This result suggests that the age of participants should be taken into account in deciding whether and how to present information about safer sex practices. Gender also plays an important role in sexual risk-taking, which suggests that girls and boys may have different intervention needs. For example, depression is associated with early sexual involvement and nonuse of birth control in girls, but not in boys (Kowaleski-Jones & Mott, 1998). Thus, girls may benefit from strategies aimed at improving their emotional functioning, while boys may respond better to other approaches. Ethnicity and cultural context are important because of their influence on norms regarding early sexual behavior and sexual risk-taking. For instance, Newcomb and his colleagues demonstrated that Latina women who are more acculturated to life in the U.S. engage in more risky sexual behaviors than their less acculturated peers. Importantly, acculturation status was a better predictor of sexual behavior than a number of theoretically derived variables based on the health belief model (Newcomb et al., 1998). This implies that certain theory-driven interventions may not be universally applicable.

Sexual Experience—Common sense suggests and evidence confirms that some strategies will work better with sexually experienced youth while others will be more effective with adolescents who have not yet initiated intercourse. For example, in their evaluation of an abstinence-oriented program for young teens, Howard and McCabe (1990) found their program effective in delaying the onset of intercourse among sexually inexperienced students, but ineffective for those students who were already sexually experienced at baseline. Intuitively, one should assume that sexually experienced students will not relate to interventions that stress abstinence. This notion is corroborated by findings from a recent study comparing the efficacy of an abstinence-oriented intervention to that of a safer sex intervention (Jemmott, Jemmott, & Fong, 1998). Sexually experienced students showed a greater reduction in intercourse frequency and unprotected intercourse if they were exposed to the safer sex intervention rather than the abstinence-oriented intervention.

It should also be noted that sexual victimization history may influence students' responses to prevention programs. Sexual victimization is associated with earlier initiation of intercourse and more risky sexual behavior (Stock et al., 1997). This suggests that children who have been victimized may be in need of more intensive prevention interventions. Furthermore, it is possible that students who have been previously forced to engage in sexual behavior may not respond to programs that emphasize self control and personal responsibility pertaining to abstinence or safer sex practices. It may be particularly difficult (yet particularly important) to increase self-efficacy among this group of students.

Other Potential Factors—Other factors that may moderate intervention effectiveness include personal experience, academic performance, parent-child relationship variables, religious affiliation, and sexual orientation. Students who are personally familiar with problems such as STIs and adolescent pregnancy may have different responses to preventive interventions relative to their peers. If they have witnessed the effects of AIDS, for instance, they may be more readily motivated to take protective measures. Students who are having academic difficulty in school may not respond as well to traditional classroom-based instructional methods, and school attendance problems could interfere with participation in school-based programs. Furthermore, adolescents whose parents do not monitor their behavior may show more reduction in sexual risk-taking if interventions successfully engage their parents' participation. Students who are affiliated with religious organizations may respond best to programs that promote values and group norms that are consistent with their religious beliefs. Finally, although it is important for sexually active gay, lesbian, and bisexual youth to adopt safer sex practices, they may not relate well to programs that assume all participants to be heterosexual. In general, it would be a mistake to adopt any intervention strategy without first considering the impact of these and other potential moderating variables.

MODEL PROGRAMS

Because the intervention needs of different communities will vary considerably, we describe a diverse range of model programs, each using different strategies to address the multiple issues related to early sexual behavior. The Postponing Sexual Involvement curriculum (Howard & McCabe, 1990) is a classroom-based intervention that has been shown to promote abstinence as well as contraceptive use among sexually inexperienced youth. An AIDS-Prevention Curriculum for High School Students (Walter &

Vaughan, 1993) emphasizes sexual risk reduction and has been shown to increase condom use and decrease a number of risky behaviors among high-risk teens. The Teen Outreach program (Allen et al., 1997) aims to prevent teen pregnancy and academic failure by improving adolescents' emotional and interpersonal competence and promoting volunteer community service. The School/Community Program for Sexual Risk Reduction Among Teens (Vincent, Clearie, & Schluchter, 1987) is a comprehensive intervention that involves collaboration with various members of the community and their respective agencies. After briefly describing each of these interventions, we conclude with some general recommendations about the selection, implementation, and evaluation of prevention methods that target sexual behavior and its consequences.

Postponing Sexual Involvement

Program Description—The first model, Postponing Sexual Involvement (PSI), is a school-based intervention designed to encourage middle school students to wait until they are older before initiating sexual intercourse (Howard & McCabe, 1990; Kirby, Korpi, Barth, & Cagampang, 1997). The five-session PSI curriculum was designed to complement a previously developed five-session sexuality education curriculum that had been widely used with eighth-graders in a Southeastern school district. PSI is based on the social inoculation model discussed above, and focuses on peer and media influences that may lead young people to begin having early sexual experiences. A key underlying assumption of this approach is that adolescents who initiate intercourse before age 16 often do so in response to social influences, as they attempt to address interpersonal needs in maladaptive ways. The PSI curriculum involves classroom-based discussions and activities that focus on social influences such as peer pressure and media images glamorizing sexuality. Each session also presents opportunities for students to practice strategies for resisting these influences. The sessions are led by older teenagers (11th and 12th graders) who are trained and supervised by adult health-education professionals.

Evaluation Results—Initially, a quasi-experimental design was used to evaluate the effectiveness of this intervention among a sample of high-risk middle school students. Some of the students in the sample attended schools in which PSI and the complementary sexuality education curriculum were taught to eighth graders, while others attended schools in which these interventions were not provided. Comparisons between the two groups indicate that the intervention was effective among students who were sexually inexperienced at the beginning of the study. Sexually inexperienced students who received PSI and sexuality education were significantly less likely to initiate intercourse during eighth or ninth grade than their peers who did not receive the intervention. Also, among students who initiated intercourse after the study began, those who received this intervention were more likely to use birth control than those who did not. However, the program was not effective in reducing intercourse frequency or increasing contraceptive use among students who were already sexually experienced at baseline.

Although these initial results are promising, subsequent evidence raises questions about the efficacy of this intervention. Specifically, a large-scale experimental evaluation of the PSI curriculum was recently conducted in California. More than 10,000 middle school students were randomly assigned at the individual, classroom, or school level to treatment and control groups. Students in the treatment conditions received the PSI curriculum. They were also required to receive some sexuality education prior to PSI, although they were not exposed to the same five-session sexuality education curriculum that was provided to students who participated in the initial evaluation study. Baseline data were collected before the intervention was implemented, and outcome data were collected 3 and 17 months after baseline. Although some desirable effects on attitudes and beliefs were observed in PSI participants after 3 months, none of the expected effects on sexual activity, pregnancy rates, or STIs were observed in any of the outcome data comparing treatment and control groups, even when sexually inexperienced students were examined separately. In other words, evidence of the PSI curriculum's effectiveness was not replicated.

This curriculum has received considerable attention, and is viewed as one of the more promising abstinence-oriented interventions available. As a result, it is important for practitioners to be aware of this failure to replicate the findings of the original evaluation. It is possible that the initial results were spurious, and that the more rigorous experimental design failed to detect effects because the curriculum is in fact ineffective. On the other hand, it is possible that some crucial but intangible elements of the intervention were lost in the attempt at large-scale replication, or that the sexuality education component in the more recent study was missing essential elements that were present in the original five-session sexuality education module. Kirby et al. (1997) argued that the five-session PSI curriculum may simply be too limited in duration and scope to significantly impact sexual behavior. In light of these issues, practitioners interested in implementing the PSI curriculum must consider their choice carefully. It is essential that settings adopting PSI conduct thorough process and outcome assessments.

AIDS-Preventive Curriculum for High School Students

Program Description—In collaboration with several New York City high schools, Walter and Vaughan (1993) developed and evaluated an AIDS-preventive curriculum that emphasizes several constructs relevant to social learning theory in general and the health belief model in particular. The curriculum content was selected in response to a needs assessment in which the relevant knowledge, beliefs, self-efficacy, and behaviors of students in the target population were evaluated. The intervention consists of six classroom-based sessions taught by regular high school teachers who are trained to deliver the curriculum. Students are presented with facts about the transmission and prevention of AIDS, as well as information about AIDS prevention resources in their schools and communities. In addition, students are taught to appraise accurately their own level of risk, and to examine any misperceptions they may have about AIDS risk behaviors among their peers. Finally, they are provided with knowledge and skill training relevant to condom use and interpersonal negotiation.

Evaluation Results—The intervention was delivered to 9th and 11th graders in four New York City high schools. In two of the schools, several 9th grade classrooms were randomly selected to receive the intervention, and several 11th grade classrooms were randomly selected to participate in the study as part of the comparison group. In two other high schools (each of which was demographically similar to one of the first two high schools), 11th grade classrooms were randomly selected to receive the intervention and

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9th grade classrooms were randomly selected for the comparison group. All students participating in the study were assessed at baseline and 3 months after the intervention. Results indicate that the curriculum was effective in increasing students' knowledge about AIDS and beliefs about how beneficial and normative AIDS-preventive behaviors are. The curriculum also led to increases in self-efficacy regarding AIDS-preventive behaviors, and decreases in sexual risk-taking (increased condom use, decreased sex with multiple partners, and decreased sex with high-risk partners). The intervention was equally effective regardless of student age and ethnicity. The use of self-report to assess behavioral outcomes is an important limitation of this evaluation study. Evidence of actual decreases in STI transmission would be more convincing, but such evidence is not available. Also, the relatively short follow-up interval leaves open the question of whether the observed changes in knowledge, attitudes, and behavior are likely to persist for longer than a few months.

Teen Outreach

Program Description—The Teen Outreach program (Allen et al., 1997) differs from other model programs in that it does not address sexual behavior directly. Instead, it seeks to prevent both adolescent pregnancy and school failure by engaging high school students in volunteer activities in their communities and in classroom-based discussions about these experiences, career and relationship goals, and the transition to adulthood. Consistent with problem behavior theory, this approach is based on the idea that multiple problem behaviors may arise from common developmental pathways. By providing adolescents with meaningful volunteer experiences and opportunities to discuss these experiences in relation to their career and relationship goals, this intervention aims to help students to develop decision-making skills, improve emotional functioning, and increase their opportunities for positive interactions with peers and adults. These changes, in turn, are expected to increase young people's interest in school and reduce the number of adolescent pregnancies. The fact that this approach does not explicitly address sexual behavior may make it a politically viable strategy in communities that will not accept a more direct approach.

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Evaluation Results—The Teen Outreach program has been shown to be effective in reducing pregnancy, school failure, and suspension rates. Several schools throughout the country participated in an experimental evaluation involving random assignment of students or (in some cases) classrooms to intervention and control conditions. Students filled out questionnaires at the beginning and end of the school year during which the Teen Outreach intervention was implemented. These questionnaires asked students whether they had failed any courses, been suspended, or been pregnant or had a partner become pregnant. At posttest, students who received the intervention reported fewer pregnancies and fewer academic problems than students in the control condition. Interestingly, the effect of the intervention on pregnancy (or involvement with pregnancy) was stronger for female students than males. Also, girls in the study outnumbered boys by a factor of more than 5 to 1. Thus, it appears that compared to boys, girls are more responsive to and more readily recruited into this type of intervention. In general, the results suggest that the Teen Outreach Program may be an effective intervention, but these findings must be interpreted with caution given the use of self-report to assess academic functioning and pregnancy history.

School/Community Program for Sexual Risk Reduction Among Teens

Program Description—When it was initially implemented in a rural Southeastern community, the School/Community Program for Sexual Risk Reduction Among Teens (Paine-Andrews et al., 1996; Vincent et al., 1987) involved wide-scale efforts to educate adults (i.e., teachers, church leaders, parents, members of community organizations) about human sexuality and related topics such as human reproduction, decision making, communication skills, self-esteem enhancement, and the role of values in sexual behavior. The goal was to enable the adults in the community to convey formally and informally the relevant information and messages to children and adolescents. In addition to these educational efforts, the program developers collaborated with school administrators, established links between schools and contraceptive services, used radio, television, and print media to publicize the intervention, and provided after-school and summer activities for youth in the community. Taken together, these efforts were expected to lower the rates of unintended pregnancies among adolescents. The intervention's primary behavioral objective was the delay of intercourse among adolescents, and its secondary behavioral objective was the promotion of effective contraceptive use among sexually active adolescents.

Evaluation Results—The intervention was evaluated using a quasi-experimental design in which the adolescent pregnancy rate in the targeted community was compared to rates in four other demographically similar communities. Although the quasi-experimental nature of this design may limit the evaluation's generalizability, it represents a reasonable effort to measure community-wide changes in response to a complex, multifaceted intervention. Initial results were quite favorable. After the first several years, the intervention community experienced a 54% decrease in adolescent pregnancy while comparison communities experienced increases. A few years later, however, the adolescent pregnancy rate in the intervention community began to increase, eventually reaching preintervention levels. Several important events took place that may help explain this disappointing result: A school nurse who had been very active in helping students obtain birth control was reassigned; a satellite health department clinic was closed; and a state policy was enacted that prohibited the distribution of contraceptives in schools. These changes, in combination with a general loss of momentum in the intervention, are believed to have contributed to the diminished effectiveness of the program over time. The initial success of the intervention indicates that comprehensive, community-wide efforts can be worthwhile, but later events suggest that providing access to contraceptive services may be an essential element of this type of intervention.

Recommendations for Selecting Prevention Programs

Needs Assessment—Before adopting an intervention approach, a careful assessment should be conducted to determine the specific sexual risk-reduction needs of the community and any potential obstacles that may interfere with efforts to address these needs. One of the first steps in this process is to identify relevant stakeholders and potential collaborators. At a minimum, these include students, parents, and school personnel. Other possibilities include health care providers, public health officials, owners of businesses (particularly those who sell condoms and other con-

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traceptives), religious figures, and other community leaders. Donovan (1998) recommended setting up an advisory board of various school personnel and community members. This strategy should facilitate collaboration, and would also increase the chances that decisions about prevention goals and intervention methods will represent the opinions of various constituent groups.

A number of critical questions should be addressed in the needs assessment. One important goal is to learn as much as possible about the political feasibility of various sexually oriented interventions in the local context. In addition, it is important to gather information about the sexual norms and behaviors of students in the target population, and about relevant contextual variables such as family composition, ethnicity, and socioeconomic status of community members. It would be useful to determine what, if any, gaps exist in relevant knowledge and resources among parents, teachers, students, and the community in general. Data relevant to all of these questions could be generated by conducting surveys or focus group interviews. Moreover, review of relevant records could prove beneficial. Public health statistics regarding rates of unintended pregnancy, abortion, and STIs among adults and adolescents in the community should be reviewed, and data should be gathered from reproductive health care providers to determine the extent to which adolescents are already accessing such services.

Developing Goals and Selecting Intervention Strategies— Information collected during the needs assessment should be used to develop prevention goals that are appropriate for the community. These goals may relate to specific behaviors (e.g., "increase the proportion of students who wait until age 16 to initiate intercourse"; or "decrease the average number of sexual partners that sexually active students report having") or to more general outcomes (e.g., "reduce the rate of adolescent pregnancy"), or both. Ideally, the goals will be relevant to the community's needs, and acceptable to its members. Intervention strategies should then be selected that are likely to be effective with respect to the prevention goals and the characteristics of the participants. The model programs described above provide examples of the variety of approaches presently available. Practitioners may choose to adopt one of these models or combine various elements of several different programs.

In cases where risks to youth are high but community norms discourage prevention programming, school-based practitioners may need to consider implementing a politically unpopular intervention. For example, in a community with high rates of early sexual behavior and STIs, the best practice might be to negotiate with or, if necessary, work in opposition to a vocal community leader who objects to any discussion of condoms with students. In such instances, it may be necessary to educate the community about the seriousness of the risks, and about the results of studies demonstrating that educating students about birth control and safe sex generally does not lead to increases in sexual behavior. In some circumstances, creative solutions may be called for. For example, if it is not politically feasible to discuss sexuality issues with students, information about the prevalence of adolescent sexual behavior and the risks associated with it can be provided to parents, along with training in how to communicate with their children about these issues.

Assessment of Process and Outcome—Process and outcome assessment should accompany the delivery of any intervention. In the case of prevention programs aimed at the delay or modification of sexual behavior among adolescents, several issues ought to be addressed. Throughout the intervention, the integrity and acceptability of the prevention strategies should be repeatedly assessed. Assessment of intervention effectiveness should focus on whether and to what extent original goals are being met, and should include outcome data beyond student self-report. For example, public health statistics regarding adolescent pregnancies, abortions, and STIs could be examined and compared to preintervention rates. Results of both process and outcome assessment should be communicated to community members. For example, a newsletter about the intervention could be sent out at regular intervals to parents and students. Also, local media could be invited to cover the intervention and its results. In some cases, as information about the successes and failures of an intervention come to light, goals may need to be revised and the adoption of new strategies may be warranted.

CONCLUSION

Early sexual behavior and the negative consequences that result from it represent some of the most complicated intervention targets facing school-based professionals today. On the one hand, there is clear evidence that certain types of early sexual behavior are associated with a host of psychosocial problems as well as health risks. On the other hand, normal development includes sexual development, and sexuality can be a source of pleasure as well as risk throughout the life span. Interventions that emphasize abstinence often enjoy political privilege at the local as well as national level, and they generally represent the safer, more comfortable approach when considerations such as parent approval, federal funding, and local publicity come into play. However, when abstinence-oriented interventions are delivered in an indiscriminate and inflexible manner, the young people in greatest need are effectively denied access to the type of services most likely to help them. Of particular concern are those young people who have already initiated intercourse, as they are unlikely to change their behavior in response to abstinence-oriented programs.

We therefore recommend that practitioners become familiar with a range of prevention strategies, so that they will be prepared to deliver services relevant to the needs of all young people whom they serve. In some cases, community sentiment may favor the approach that is most appropriate and most likely to be effective. For example, if a needs assessment reveals that many young people in a particular school are initiating intercourse in response to peer pressure, then an abstinence-oriented approach, such as the relatively uncontroversial PSI curriculum, may be warranted. However, decision-makers should be fully informed about the limited available evidence of this program's effectiveness. If adolescents in a given community are at high risk for HIV infection, and if parents and community leaders are cognizant of that risk, then interventions involving condom distribution or sexual risk reduction may be relatively easy to introduce. However, in other cases, significant opposition is likely to be encountered. For instance, in a community with inadequate contraceptive services and high rates of adolescent pregnancy, religious groups or political influences may interfere with efforts to increase adolescents' access to birth control. In order to make an impact under such challenging circumstances, practitioners must be willing to expand their role, educating parents and community leaders as well as students, and serving as agents of social as well as behavioral change. School psychologists must take on an advocacy role regarding the school's prevention responsibilities.

RECOMMENDED RESOURCES

Allen, J. P., Philliber, S., Herrling, S., & Kuperminc, G. P. (1997). Preventing teen pregnancy and academic failure: Experimental evaluation of a developmentally based approach. *Child Development, 64,* 729-742.

This article focuses on the evaluation of the Teen Outreach program (discussed in this chapter). The intervention and its theoretical rationale are described and the design and results of the experimental evaluation are presented.

Donovan, P. (1998). School-based sexuality education: The issues and challenges. *Family Planning Perspectives, 30,* 188-193.

This paper addresses several of the political issues that influence the delivery of preventive sexuality education services in schools. The author provides useful information and advice for practitioners interested in implementing such services.

Franklin, C., Grant, D., Corcoran, J., Miller, P. O., & Bultman, L. (1997). Effectiveness of prevention programs for adolescent pregnancy: A meta-analysis. *Journal of Marriage and the Family, 59,* 551-567.

This study examines the results of 32 published evaluations of adolescent pregnancy prevention programs, focusing on the effects of such interventions on sexual activity, contraceptive use, and pregnancy. The meta-analytic strategy allows the authors to make generalizations about the effects of interventions on these three outcome variables, and to examine the roles of several possible moderating factors such as participant demographics, type of intervention (i.e., abstinence-only vs. sex education with no contraception, vs. sex education with contraceptive knowledge-building and distribution), and locus of intervention (i.e., school vs. community).

Frost, J. J. & Forrest, J. D. (1995). Understanding the impact of effective teenage pregnancy prevention programs. *Family Planning Perspectives, 27,* 188-195.

This paper focuses on five empirically supported adolescent pregnancy prevention programs (including the School/Community Program for Sexual Risk Reduction Among Teens and the PSI curriculum described in this chapter). Details about each intervention and its evaluation are presented, and conclusions are drawn about elements that appear to be common among effective programs.

Kirby, D., Short, L., Collins, J. Rugg, D., Kolbe, L., Howard, M., Miller, B., Sonenstein, F., & Zabin, L. S. (1994). School-based programs to reduce sexual risk behaviors: A review of effectiveness. *Public Health Reports, 109,* 339-360.

This review examines the findings of a variety of empirical studies addressing the effects of school-based programs aimed at pregnancy prevention, sex education, and/or STI prevention. Seven of the studies

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reviewed assess the effects of sex education through national surveys of adolescents, and the other 16 studies are experimental or quasi-experimental evaluations of specific prevention programs (including the PSI and AIDS-preventive curricula described in this chapter). Details about each of the 16 interventions and evaluations are provided, and the characteristics of effective and ineffective programs are compared.

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CHAPTER 9:
Promoting Physical Health

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U.S. children and youth face many preventable threats to their health and well-being. The Centers for Disease Control and Prevention (CDC) have identified six priority health behaviors that substantially contribute to morbidity and mortality in U.S. youth: physical inactivity, nutrition behavior, sexual behaviors leading to HIV/STD and unintended pregnancy, behaviors leading to intentional and unintentional injuries, tobacco use, and alcohol and other drug use (Kolbe, 1990). These six behaviors have also been implicated as causes of the so-called new social morbidities, that is, conditions that result from unhealthy behaviors or lifestyle choices. Whereas infectious diseases posed the greatest threat to health and human life 100 years ago, lifestyle diseases and conditions account for more than 70% of death, disease, and disability among adolescents in the United States today (Allensworth, Lawson, Nicholson, & Wyche, 1997).

In this chapter, we provide an in-depth focus on two of these priority behaviors—physical inactivity and poor nutritional practices (see chapters 7 and 8 for information related to other priorities). We review background issues, effective strategies, and models for change in the school setting. We also discuss the role of the school psychologist as a member of a school health team to promote physical activity and healthful eating behavior.

Regular participation in physical activity provides a range of health benefits. In adults such activity contributes to decreased risk for coronary heart disease, hypertension, non-insulin-dependent diabetes, osteoporosis, obesity, certain cancers, and some mental health problems (CDC, 1997). Recent studies have demonstrated that risk of all-cause mortality is lower in physically active and/or fit adults than in their sedentary counterparts (Blair et al., 1995). Yet most U.S. adults are not physically active at levels that benefit their health; only 20 to 25% of adults meet the recommended standards for regular participation in physical activity (Caspersen & Merritt, 1995). About 50% of adults are somewhat active but fail to meet recommended standards, and about 25% of the population is virtually sedentary (CDC, 1993).

Although children are more active than adults, the majority are not as active as recommended by standards. In the 1990 National Youth Risk Behavior Survey, only 25% of the girls and 50% of the boys reported participating in vigorous exercise three or more times per week (CDC, 1991). Much more time is spent watching television, with 70% reporting watching television for more than 1 hour on a typical school day and approximately 40% reporting watching 3 hours or more per day (CDC, 1991).

Children who participate in regular physical activity have more favorable cardiovascular disease risk factors, including blood lipids, fitness, obesity, body fat, and resting blood pressure, than less active children. Regular participation in physical activity or sport also appears to be associated with higher levels of self-esteem and self-concept and lower levels of anxiety and stress (CDC, 1997). A growing body of literature points to the detrimental effects of physical inactivity on the academic lives of young people (Symons, Cinelli, James, & Groff, 1997). Physical activity or exercise is associated with improved academic outcomes, maintenance of positive interpersonal relationships, and reduced incidence of anxiety, depression, and fatigue (Symons et al., 1997).

Eating habits established in childhood and adolescence contribute to chronic diseases in adulthood, including coronary heart disease, cancer, stoke, diabetes, high blood pressure, overweight, and osteoporosis (CDC, 1996). Coronary heart disease, cancer, and stroke are the leading causes of mortality in the United States. Some of the physiological processes that may lead to chronic disease later in life (i.e., atherosclerosis and elevated blood cholesterol) begin in childhood (National Heart, Blood and Lung Institute [NHBLI], 1990).

Many young people in the United States have unhealthy eating practices and exceed the recommended amounts of total dietary fat (80% of youth) and saturated fat (90% of youth) (Krebs-Smith et al., 1996). In the 1993 National Youth Risk Behavior Survey, only 15% reported having eaten five or more servings of fruits on the day proceeding the survey (Kann, Warren, et al., 1995).

Poor dietary practices in children and adolescents result in undernutrition, iron deficiency anemia, overweight and obesity, unsafe weight loss methods, and dental caries. Iron deficiency anemia can cause increased fatigue, shortened attention span, decreased work capacity, reduced resistance to infection, and impaired academic performance. Female adolescents are at the greatest risk for iron deficiency anemia among the school-aged population (CDC, 1996). Dental caries are common, affecting about half of youth ages 5 to17 (National Institute of Dental Research, 1989). More than 50 million hours of school time annually are lost because of dental problems or dental visits. If not treated, dental caries progress and can result in acute infections, pain, costly treatment, and tooth loss (U.S. Department of Health and Human Services, 1991).

The number of children and adolescents who are obese has increased in recent years. About 11% of youth aged 6 to17 years old are seriously overweight, double the rate in the 1960s (Troiano, Flegal, Kuczmarski, Campbell, & Johnson, 1995). Obesity places young people at risk of many chronic health conditions. Further, youth who are obese are often excluded from peer groups and may experience psychological stress and low self-esteem (Wadden & Stunkard, 1985).

At the other end of the spectrum are the increasing numbers of young girls who are concerned about body weight. These girls may practice unsafe weight-loss methods, including restriction of food, smoking cigarettes, using diet pills, using laxatives and vomiting after meals (American School Health Association, Association for the Advancement of Health Education, and Society for Public Health Education, 1989). A small percentage of youth (up to 3%) who practice risky eating behaviors, particularly girls, may have an eating disorder (e.g, anorexia nervosa or bulimia nervosa) (American Psychiatric Association, 1994). Eating disorders are life-threatening and require medical and psychological treatment (Herzog & Copeland, 1985).

An extensive body of literature documents the negative impact of poor dietary practices on learning outcomes (Symons et al., 1997). Undernutrition results in lower attainment of scores on standardized achievement tests; reduced resistance to infection, resulting in more days out of school and falling behind in school; irritability and trouble concentrating; and low energy, which affects students' ability to be physically active (CDC, 1996). Even peri-

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odic or short-term hunger diminishes brain function. Studies point to the negative effects of missing breakfast and to the positive effects of school food service breakfast programs on school children's academic performance (CDC, 1996; Symons et al., 1997; Caldwell, Nestle, & Rogers, 1998).

In summary, it is evident that physical inactivity and unhealthful eating behavior contribute substantially to morbidity and premature mortality in the United States. Interventions that promote sound dietary practices and physical activity in children and adolescents have great potential to prevent premature mortality, decrease health care costs, and improve quality of life . Because children can learn healthy behaviors in childhood and adolescence that they will carry into adulthood, primary and secondary schools are ideal settings in which to help children learn to be physically active and to eat well (Kolbe, 1990). Further, evidence is mounting that promoting sound dietary practices and physical activity have beneficial effects on school performance (CDC, 1996, 1997).

INFLUENCES ON CHILDREN'S PHYSICAL ACTIVITY AND EATING HABITS

Many factors influence a child's or adolescent's level of physical activity. Differences are noted across gender, age, and racial groups, with boys being more active than girls, White students more active than African American students, and younger students more active than older ones (Heath, Pratt, Warren, & Kann, 1994). A number of psychosocial and environmental factors also influence one's physical activity. These include parents' activity level, social influences, intentions to be active, access to equipment and facilities, time spent outdoors, and perceived self-efficacy (confidence in ability to be physically active) (CDC, 1997).

Social cognitive theory is one of the most dominant models explaining and predicting health behavior, including physical activity (Stone, McKenzie, Welk, & Booth, 1998). The theory posits that person factors, environmental factors, and behavioral factors interact reciprocally to influence behavior (Bandura, 1986). The theory suggests that effective interventions for promoting physical activity should target factors from each of these three spheres (see Table 1) (Sallis et al., 1992).

Perceived self-efficacy to be physically active is associated

TABLE 1

Influences on Physical Activity and Dietary Practices From a Social Cognitive Perspective

Behavioral factors	Self-regulation skills (self-monitoring, self-assessment, self-reinforcement) Decision-making and goal-setting skills Specific behavioral skills (e.g., skills to overcome barriers to activity, skills to select and prepare healthful foods)
Person factors	Knowledge (e.g., how to be active, diet-health connection) Self-efficacy Beliefs (e.g., about benefits of activity and healthy eating, about overcoming barriers)
Environmental factors	Family influences Peer influences Opportunity (e.g., for safe activity, to healthy foods) Social and cultural norms Role models

with physical activity, whereas general personality characteristics (e.g., achievement motivation, self-confidence) have not been consistently associated with physical activity in children or adolescents. Behavioral skills such as the ability to regulate one's behavior and overcome barriers to being active are also associated with activity. Although knowledge about the health effects of physical activity have not been found to be important, knowledge about how to be physically active may be a significant influence. Measures of attitudes about physical activity have had weak or moderate association with physical activity, whereas specific beliefs about one's personal participation in physical activity (e.g., outcomes of participating in physical activity) and perceptions of barriers (e.g., lack of time) have been strongly associated with activity in adolescents (Sallis et al., 1992).

Social cognitive theory has also been the dominant model for understanding dietary behavior. The influences on eating behavior in children and youth are complex and shaped by family, sociocultural and economic factors, the food industry, and mass media (Crockett & Sims, 1995). Other factors, such as taste preferences, also affect food selection (Resnicow et al., 1997). Because food serves important social functions in addition to meeting nutritional needs, a comfortable and attractive social environment contributes to healthy eating (Crockett & Sims, 1995).

As with physical activity, effective nutrition interventions often target the three interacting spheres of influence as described in Table 1 (CDC, 1996; Resnicow et al., 1997). Knowledge about the link between dietary practices and health are not important until children are in middle school, due to the level of cognitive development. Other important influences are the social environment, including family and peers; behavioral skills such as food selection and ability to assess and change one's own diet; and the media, particularly television (CDC, 1996).

Given the complexity of influences on physical activity and eating behavior, it is unrealistic to expect schools alone to increase physical activity and improve the eating habits of children and adolescents. However, the schools have an important role in shaping physical activity and nutrition behavior (Seefeldt, 1998; Caldwell et al., 1998). In a manner consistent with social cognitive theory, most effective school-based interventions target multiple behaviors, such as physical activity, nutrition, and smoking, through multiple approaches components, such as physical education, health education, and food services (Stone et al., 1998; Marx, 1998). Since the early 1900s, education and health professionals have used school health programs to address these and other health issues affecting children and youth. However, the concept of a school health program has evolved considerably over the past decade (Allensworth & Kolbe, 1987).

PROMOTING PHYSICAL ACTIVITY AND HEALTHFUL DIETARY BEHAVIOR WITHIN A COORDINATED SCHOOL HEALTH PROGRAM

Traditionally, school health programs had been conceived to have three components: school health services, school health education, and the school health environment (Allensworth & Kolbe, 1987). However, this approach did not address the comprehensive nature of school health or the need for coordination among the components. To address this need, in the late 1980s experts in the field of school health expanded this concept to formulate an approach with eight components known as a Coordinated School Health Program (CSHP) (Allensworth & Kolbe, 1987). A CSHP brings together health educators, physical educators, wellness coordinators, school nutrition service personnel, school nurses, guidance counselors, school psychologists, and family and community members to create a coordinated curriculum, services, and a school environment that promotes health and wellness (Allensworth & Kolbe, 1987; McKenzie & Richmond, 1998). CSHPs are founded on the belief that efforts to improve student health can have greater impact if they are integrated and coordinated as a system, than if the components are working independently and in relative isolation from one another.

CSHPs should address priority risk behaviors (Allensworth, 1993; McKenzie & Richmond, 1998), be coordinated (Allensworth 1993), and build community support (Allensworth, 1987). Potential key players in a CSHP are from multiple disciplines and include anyone in the school and community who has an interest in the health and well-being of children and youth (see Table 2). Many schools in the United States have some of these personnel already in place, although they often work independently. In a CSHP, these individuals, and others interested, would come together as a team to coordinate activities and support one another. In

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TABLE
Key Personnel Potentially Involved in a
Coordinated School Health Program

Component of a CSHP	*Potential Participants**
Family & Community Involvement	Parents, students, professionals in community, business
Health Education	Health education specialist, teachers responsible for providing health instruction, curriculum coordinators, D.A.R.E. officers
Physical Education & Activity	Physical education specialist, coaches, trainers, wellness coordinator, curriculum coordinators
Healthy & Safe Environment	Administrators, facilities personnel, teachers, other school staff, campus police
Staff Wellness	Staff wellness coordinator, teachers, staff, students
Health Services	School nurse, nurse practitioner, physician
Social & Emotional Health	Guidance counselor, social worker, school psychologist
Nutrition Services	Food service personnel, nutritionist, staff wellness coordinator

* Media specialist/librarian can be involved with all components.

many ways, a CSHP is not a new concept, but a new way of looking at the resources many schools already have in place.

The potential of a CSHP has yet to be achieved. There are no intervention studies that describe schools implementing and evaluating the effectiveness of the 8-component CSHP model. Thus, although specific components of the model have been tested and shown to be effective (e.g., health education, nutrition services, etc.), the 8-component model has not been tested as a whole (McKenzie & Richmond, 1998). This may be due in part to the complexity of the model and limited resources available to the schools. As previously noted, many schools have some of these elements in place, although the extent to which they are coordinated varies considerably. Qualitative work in one state has shown that some schools do have and coordinate some or many elements of a CSHP (Saunders, 1999).

CURRENT PROGRAMMING FOR PHYSICAL ACTIVITY AND NUTRITION IN SCHOOLS

Physical Activity

The School Health Policies and Programs Study (SHPPS) provided policy and implementation data on state-, district-, school-, and classroom-level perspectives on several components of a CSHP, including physical education, school nutrition services, and nutrition education (Kann, Collins, et al., 1995; Errecart et al., 1995). Departments of education in all 50 states and in the District of Columbia participated in the survey. Most of the school districts and schools (80%) and the majority of classroom physical education teachers (70%) invited into the survey responded (Errecart et al., 1995).

The purpose of the survey was to assess important school health program components. As shown in Table 3, about three-quarters of all states have physical education coordinators. About half of school districts have physical education coordinators; however, many of these (85.9%) have other duties in addition to physical education. The percentages of states, school districts, and schools reporting some physical education requirement and written guides are high (> 80%). However, monitoring compliance with the guides at the district and school levels is much lower. Most states (92%) require certified physical education teachers at the

TABLE

School Health Programs and Policies Results: Physical Education

	Percentage of States	Percentage of Districts	Percentage of Schools	
			Middle	High
Coordinator	77	51	-	-
PE requirement	94	95	92	93
Written guides	82	93	85	84
Compliance monitored	55	70	-	-
In-service offered	72	50	63	
Collaboration	84	58	53	

Data from Errecart et al., 1995; Pate et al., 1995.

secondary level; however, only about three-quarters of schools at the secondary level report having certified physical education teachers. In-service training on physical education topics was provided by almost three-quarters of states and half of school districts. And, although collaboration is considered essential to effective school health programs, collaborative activities among physical education teachers and other school staff were more common at the state than the district or school levels. In the classroom, physical education teachers tended to devote more time (> 80%) to organized sports, such as basketball, volleyball, and softball, compared to lifetime activities such as jogging (46.5%), tennis (30.3%), and aerobic dance (29.6%) (Pate et al., 1995).

In summary from the SHPPS, physical education is a well-established component of the school program at state, district, school, and classroom levels. Most states require physical education and most districts and schools comply with those mandates. Many states, districts and schools also have written curricula or other guides and professionally prepared physical education teachers in the classroom. However, there is a need for increased emphasis on lifetime physical activity (compared to current emphasis on competitive sports) and for increased opportunities for professional development in physical education teachers.

Nutrition

Federal programs have offered support for school food service programs for some time. The National School Lunch Program was established in 1946 and the School Breakfast Program was established as a pilot program in 1966 and authorized as a permanent program in 1975. The Nutrition Education and Training (NET) Program was established in 1977 through the Child Nutrition Amendment to the School Lunch Act. The purpose of the NET Program was to provide a positive lunchroom experience and appropriate classroom instruction in nutrition (Pateman et al., 1995). To provide consistency in ensuring that all children from low-income families have access to free or reduced meals, the school food service legislation was amended in 1972. This legislation set criteria for free lunch at 130% of poverty level and for reduced price lunch at 131–185% of poverty level. In 1986, eligibility was granted for free meals in households receiving food stamps or approved for Aid to Families with Dependent Children (AFDC) (Martin & Conklin, 1999).

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During the 1980s there was a reduction in federal funds for school food programs, creating many challenges. Some schools compensated by raising the prices for federally reimbursable meals and increasing the sale of a la carte meals. In some schools the growth of profit-driven options resulted in the reimbursable meal being identified as a program for low-income students, creating stigma and reducing the participation in these programs. The profitability of selling foods and beverages with little nutritional values (e.g., from vending machines and snack bars) to students led to the use of these profits to fund band uniforms, field trips, and other school activities. This financial competition put pressure on food service programs to provide a la carte selections that would bring students to the cafeteria, even if it compromised nutritional content (Martin & Conklin, 1999).

The School Health Policies and Programs Study (SHPPS) also surveyed policy and implementation data on state-, district-, and school-level perspectives for food service in U.S. public schools (see Table 4). All states and most districts employ state-level food service directors, who are responsible for providing breakfast and lunch programs. Many of these directors also coordinate one or more additional nutrition-related programs including Summer Food Service Program, Child Care/Adult Care Program, the Nutrition Education Program, and the U.S. Department of Agriculture (USDA) Donated Food Program. About three-quarters of schools participate in the National School Lunch Program and most serve lunch daily. Less than half of the schools participate in the School Breakfast Program. More than one-third of middle and high schools (37.2%) approached or were approached by a fast food restaurant wanting to provide food for meals; however, only 16.6% of all schools at these grade levels have contracts with fast food restaurants. Many schools (83%) reported that the food service program was expected to make enough money to cover the costs of the program and about three-quarters (78%) reported having vending machines that students can use.

Certification for district-level food service directors is required in few states or schools. Among states that require certification at the district level, a bachelor's degree in nutrition or related field was the most common requirement. At the school level, the most common qualification was a high school diploma or GED and completion of a state food service training program. In the 2 years prior to the survey, about three-quarters of food service respondents

TABLE 3
School Health Programs and Policies Results: Food Service

	Percentage of States	Percentage of Districts	Percentage of Schools
Coordinator for lunch program	100	89	57
Coordinator for breakfast program	100	73	43
Summer food service	65	12	-
Requirement for certification	-	46 (bachelors)	40 (high school or GED)
In-service training	100	79	77
Collaboration	92	42	34

Data from Pateman et al., 1995.

reported receiving some type of food service–related training. Involvement of food service staff in joint projects with other school staff was much higher at the state than district or school levels. Reported classroom to cafeteria links were low, with 19.1% of all schools reporting that students visit the cafeteria to learn about healthy food (Pateman et al., 1995).

School districts and schools use a variety of resources to help plan nutritional content for meals, including USDA guidelines, state education agency guidelines, food labels, trade associations, volunteer health organizations, and food vendors (Pateman et al., 1995). A little less than half of junior high/middle and high schools (47.0%) offer fresh fruit daily; another 32.1% do so once a week or more. Few schools offer fresh vegetables daily (20.5%); more (40.0%) offer fresh vegetables once a week or more. About one-third of junior high/middle schools and high schools offer French fries daily. About half of the schools attempt to lower the fat content of French fries by baking them in the oven, and around one-third fry them in unsaturated oil (Pateman et al., 1995).

In summary, the infrastructure to support school food service programs is well established at the state, district, and school levels. All states and nearly all districts employ food service directors. Most states and many districts also provide training and materials for food service workers; this is particularly important since many school-level staff lack preservice training or certification. Collaboration among school food service staff and other staff is lower than desired and linkage between classroom nutrition education and the cafeteria is minimal. Improvements are needed in regular provision of healthful food choices and the preparation of school food service staff. School food service programs are often expected to earn money and this may have a negative impact on the nutritional quality of the meals served (Pateman et al., 1995).

Nutrition education in the classroom is usually provided through health education, also assessed by the SHHPS (Collins et al., 1995). Health education is required by most states and school districts (about 90% for each); however, the requirements for how it is provided varies greatly. For example, few school districts (18.7%) require health education as a separate course at the elementary level; less than half (43.9%) do at the junior high/middle level; and about two-thirds (65.9%) do at the high school level. Nutrition education is one of about 22 topics that may be included in health education; other topics include alcohol and other drug abuse prevention, consumer health, disease prevention and control, first aid, growth and development, injury prevention and safety, pregnancy prevention, and so on. Dietary behaviors and nutrition is a required topic in health education in about two-thirds of state (68.9%) and many (80.1%) school districts and (84.3%) schools. Many teachers (84.5%) in middle and high schools reported teaching dietary behavior and nutrition (Collins et al., 1995).

Relatively few classroom teachers in health education (13.7%) receive staff development in dietary behavior and nutrition compared to training in HIV prevention (38.6%), CPR (36.7%), alcohol and other drug abuse prevention (29.6%), and sexually transmitted disease prevention (21.3%). About two-thirds (67.6%) of the teachers include the four food groups as a topic, even though the Food Guide Pyramid, taught by 61%, has replaced it (Collins et al., 1995).

In summary, while many states and districts require health education instruction, the way in which it is offered and the specific topics covered vary considerably. Nutrition education is frequently included, but little staff development is provided in this area. As a result, many of the topics teachers report teaching are outdated and the emphasis may not be consistent with current dietary recommendations.

Although schools cannot bear the sole responsibility for promoting healthful physical activity and dietary habits among children, they have an important role. Clearly, schools have the infrastructure to support effective physical education and school nutrition services and education programs. Numerous professional organizations have provided guidelines as to how schools can be more effective in promoting healthy activity and eating. In the next section we review the primary recommendations and guidelines provided by professional and governmental organizations.

RECOMMENDATIONS FOR PROMOTING PHYSICAL ACTIVITY

The International Consensus Conference on Physical Activity Guidelines for Adolescents recommends that adolescents should be physically active daily or nearly every day, as part of play, games, sports, work, transportation, recreation, physical education, or planned exercise. The activity can take place in the context of family, school, or community activities. Further, three or

TABLE 5

Healthy People 2000 Objectives Relevant to the K-12 Physical Education Curriculum

1.3 Increase to at least 30% the proportion of people aged 6 and older who engage regularly, preferably daily, in light-to-moderate physical activity for at least 30 minutes per day.

1.4 Increase to at least 20% the proportion of people aged 18 and older and to at least 75% the proportion of children and adolescents ages 6 through 17 who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week.

1.5 Reduce to no more than 15% the proportion of people aged 6 and older who engage in no leisure-time physical activity.

1.6 Increase to at least 40% the proportion of people aged 6 and older who regularly perform physical activities that enhance and maintain muscular strength, muscular endurance, and flexibility.

1.7 Increase to at least 50% the proportion of overweight people aged 12 and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight.

1.8 Increase to at least 50% the proportion of children and adolescents in 1st through 12th grade who participate in daily school physical education.

1.9 Increase to at least 50% the proportion of school physical education class time that students spend being physically active, preferably engaged in lifetime physical activities.

Source: Excerpted from U.S. Department of Health and Human Services, 1991 more sessions per week of activities should be 20 minutes at a time and require moderate to vigorous levels of exertion (Sallis & Patrick, 1994).

Support for organized physical activity for children has come from many independent sources. Healthy People 2000 (U.S. Department of Health and Human Services [DHHS], 1991) includes seven objectives with implications for K-12 physical education (see Table 5). The National Association for Sport and Physical Education has provided standards for physical education programs, as well as more specific guidelines for elementary, middle, and high school physical education (Seefeldt, 1998). Support for physical education programs comes from many professional organizations including the American Academy of Pediatrics, American College of Sports Medicine, American Medicine Association, and Centers for Disease Control and Prevention (Seefeldt, 1998).

The CDC commissioned a comprehensive review of current scientific literature and professional organization recommendations to develop comprehensive guidelines to promote physical activity in children. This synthesis resulted in "Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People" (see Table 6) (CDC, 1997). The Guidelines provide 10 recommendations for school and community programs that are designed to help maintain physical activity in children and youth. The Guidelines also describe appropriate instructional strategies, changes to the school environment, and increased linkages to families' and communities' resources that promote physical activity in the school setting.

RECOMMENDATIONS FOR PROMOTING HEALTHFUL EATING

There is consensus on the need to provide opportunities for children to access nutritious food and for effective nutrition education that will provide children and youth with the skills they need to make healthful food choices (Caldwell et al., 1998). Recommendations supporting healthful eating have come from a variety of scientific, professional, and governmental organizations including the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (DHHS), American Cancer Society, American Heart Association, and many others (Caldwell et al., 1998).

TABLE 6

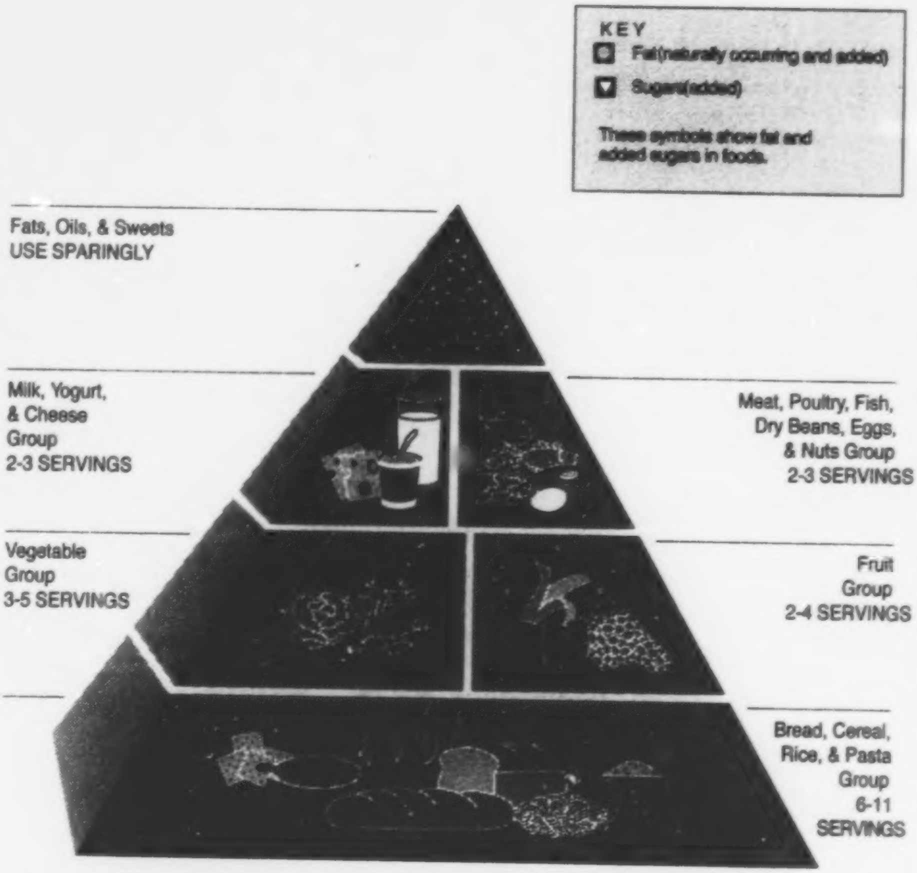
Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People

1. **Policy:** Establish policies that promote enjoyable, lifelong physical activity among young people.
2. **Environment:** Provide physical and social environments that encourage and enable safe and enjoyable physical activity.
3. **Physical education:** Implement physical education curricula that emphasize enjoyable participation in physical activity and that help students develop the knowledge, attitudes, motor skills, behavioral skills, and confidence needed to adopt and maintain physically active lifestyles.
4. **Health education:** Implement health education curricula and instruction that help students develop the knowledge, attitudes, behavioral skills, and confidence needed to adopt and maintain physically active lifestyles.
5. **Extracurricular activities:** Provide extracurricular physical activity programs that meet the needs and interests of all students.
6. **Parental involvement:** Include parents and guardians in physical activity instruction and in extracurricular and community physical activity programs, and encourage them to support their children's participation in enjoyable physical activities.
7. **Personnel training:** Provide training for education, coaching, recreation, health care, and other school and community personnel that imparts the knowledge and skills needed to effectively promote enjoyable, lifelong physical activity among young people.
8. **Health services:** Assess physical activity patterns among young people, counsel them about physical activity, refer them to appropriate programs, and advocate for physical activity instruction and programs for young people.
9. **Community programs:** Provide a range of developmentally appropriate community sports and recreation programs that are attractive to all young people.
10. **Evaluation:** Regularly evaluate school and community physical activity instruction, programs, and facilities (CDC, 1997).

Figure 1.

The Food Guide Pyramid

A Guide to Daily Food Choices


KEY
● Fat(naturally occurring and added)
▼ Sugars(added)
These symbols show fat and added sugars in foods.
Fats, Oils, & Sweets USE SPARINGLY
Milk, Yogurt, & Cheese Group 2-3 SERVINGS
Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group 2-3 SERVINGS
Vegetable Group 3-5 SERVINGS
Fruit Group 2-4 SERVINGS
Bread, Cereal, Rice, & Pasta Group 6-11 SERVINGS

Source: USDA, 2000

Six of the seven Dietary Guidelines for Americans developed by the USDA and DHHS pertain to school nutrition (CDC, 1996). These are: (a) eat a variety of foods, (b) balance the food you eat with physical activity—maintain or improve your weight; (c) choose a diet with plenty of grain products, vegetables, and fruits; (d) choose a diet low in fat, saturated fat, and cholesterol; (e) choose a diet moderate in sugars; and (f) choose a diet moderate in sodium and salt. The Food Guide Pyramid was designed by the USDA and U.S. DHHS to help persons follow the dietary guidelines. Schools can use the Food Pyramid (see Figure 1) to illustrate the importance of variety (eat foods from different food groups), moderation (limit consumption of high fat and added sugars), and proportionality (eat greater amounts from food lower in the pyramid) (Human Nutrition Information Service, 1992). Following the dietary guidelines will help the nation achieve the year 2000 National Health Objectives (U.S. DHHS, 1991), listed in Table 7.

The CDC also commissioned the development of a synthesis document for promoting healthful eating in children in school settings based on scientific literature, national nutrition policy, and current practice. *The Guidelines for School Health Programs to Promote Lifelong Healthy Eating* provide seven recommendations for school programs designed to help and maintain healthful eating in children and youth (CDC, 1996). An overview of these guidelines is presented in Table 8. In a manner that is similar to the physical activity guidelines, this document provides information on developing environments and instructional strategies to promote healthful eating in the school.

EFFECTIVE STRATEGIES

Effective programs to promoting health-enhancing behavior in school settings are characterized by focusing on key risks to behavior and learning, interdisciplinary collaboration, and multicomponent programs. They provide staff development, inclusive program planning, and elicit wide support from the students, adults in the school, and adults in the community (McKenzie & Richmond, 1998). Similarly, effective strategies for promoting physical activity and healthful eating in school settings are not limited to classrooms; they also take place in the broader context of the school environment. This is consistent with current theoretical under-

TABLE 7

Healthy People 2000 Objectives Relevant to Promoting Healthy Eating in the School

2.3 Reduce prevalence of individuals overweight to 20% or less among people aged 20 and older and 15% or less among adolescents aged 12 through 19.

2.5 Reduce average dietary fat intake to 30% or less of calories and average saturated fat intake to 10% or less of calories among people aged 2 and older.

2.6 Increase complex carbohydrates and fiber-containing foods in the diets of adults to five or more servings daily for vegetables (including legumes) and fruits and to six or more daily servings for grain products.

2.7 Increase to 50% or more the proportion of overweight people aged 12 and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight.

2.8 Increase calcium intake so that 50% or more of proportion of overweight people aged 12 through 24 and 50% or more of pregnant and lactating women consume three or more servings daily of foods rich in calcium and 50% or more of people aged 25 or more consume two or more servings daily.

2.9 Decrease salt and sodium intake so that 65% or more of home meal preparers prepare foods without adding salt, 80% or more of people avoid using salt at the table, and 40% or more of adults regularly purchase foods that are modified or lower in sodium.

2.19 Increase to at least 75% the proportion of the nation's schools that provide nutrition education from preschool through 12th grade, preferably as part of quality school health education.

Source: Excerpted from US Department of Health and Human Services, 1991

TABLE 8
Guidelines for School Health Programs to Promote Lifelong Healthy Eating

1. **Policy:** Adopt a coordinated school nutrition policy that promotes healthy eating through classroom lessons and a supportive school environment.

2. **Curriculum for nutrition education:** Implement nutrition education from preschool through secondary school as a part of a sequential, comprehensive school health education curriculum designed to help students adopt healthy eating behaviors.

3. **Instruction for students:** Provide nutrition education through developmentally appropriate, culturally relevant, fun, participatory activities that involve social learning strategies.

4. **Integration of food services and nutrition education:** Coordinate school food service with nutrition education and with other components of the comprehensive school health program to reinforce messages on healthy eating.

5. **Training for school staff:** Provide staff involved in nutrition education with adequate preservice and ongoing in-service training that focuses on teaching strategies for behavior change.

6. **Family and community involvement:** Involve family members and the community in supporting and reinforcing nutrition education.

7. **Program evaluation:** Regularly evaluate the effectiveness of the school health program in promoting healthy eating, and change the program as appropriate to increase its effectiveness (CDC, 1996).

standing of these behaviors, recommendations of professional organizations, a coordinated approach to school health, and current research as presented earlier.

School-level strategies target change in the school as an organization. Targets may include changes in curricula (e.g., adoption of new physical education and health education curricula), the physical environment (e.g., foods offerings in the cafeteria, improving access to opportunities to be physically active on or near school grounds), and the social environment (e.g., strategies that affect families' involvement in promoting physical activity and healthful nutrition) (Perry et al., 1990). School-level strategies are typically implemented through providing staff development, involving appropriate individuals in planning and implementing school change, and working with decision-makers to change policy. Individual-level strategies target individual behavior and typically include approaches to enhancing perceived self-efficacy, skills in overcoming barriers, and development of self-regulation skills (Perry et al., 1990). Most individually focused strategies are implemented through classroom settings by teachers and trained school staff.

Promoting Physical Activity

The results of the School Health Policies and Programs Study (SHPPS) (Pate et al., 1995) led to the following school-level suggestions for improving physical education: increase emphasis on lifetime physical activity, increase opportunities for in-service training for physical education teachers, increase numbers of schools requiring daily physical education in every grade, and increase collaboration between physical education and other school staff. Since physical activity declines in adolescence, it is especially important for physical education to be enjoyable and support feelings of competence that will sustain long-term participation in physical activity (Pate et al., 1995).

Similar suggestions for school-level changes to promote physical activity as part of a coordinated school health program have been identified through the collaborative efforts of many professional and scientific organizations (Seefeldt, 1998). These include: (a) providing effective, enjoyable instructional programs for physical education, preferably daily, for all students K-12; (b) offering programs that meet the needs of special populations such as students with low levels of fitness, physical or cognitive disabilities, or chronic health conditions; (c) ensuring that qualified staff deliv-

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er physical education programs; (d) developing and enforcing policies that support physical education for all students; (e) creating an environment that supports physical activity as part of a coordinated school health program; (f) involving families and communities in the promotion of physical activity; and (g) systematically assessing physical education programs and outcomes and using the results for program improvement. Implementing these strategies would involve, in part, a move away from the traditional emphasis on sport and toward a focus on helping students to gain skills to be physically active and to understand the relationship between health and physical activity (Seefeldt, 1998).

Criticisms of traditional physical education include an overemphasis on sport skills and competitive team sports, failure to expose children to types of activities that will be useful in adulthood, and failure to include instruction for developing skills that will enable them to be physically active for life (Pate, 1994; Seefeldt, 1998; Pate et al., 1995). The current recommendations also involve moving from a performance-oriented goal structure to a learning or mastery-goal structure for physical education instruction (Gredler ,1994). In performance-oriented classrooms, success is defined by attaining high scores or grades compared to others and by appearing to outperform others with little effort. Students work for high grades and to have external verification of their performance by others. Because this sets up a competitive situation in which many students won't succeed, it also creates anxiety (fear of failure) and guilt (not trying hard enough). This approach is not conducive to learning and development of positive attitudes toward physical activity (Gredler, 1994).

In contrast, in a mastery-oriented goal structure, learning new skills, mastery of new tasks and making progress are emphasized. Errors are treated as information for changing strategies, not as failures. Students work to attain personal fitness goals, rather than work toward a common "ideal" standard. Instruction emphasizes the development of physical activity self-efficacy through learning appropriate goal-setting (based on current fitness and skill level) and authentic mastery experiences (Gredler, 1994).

The CDC (1997) describe specific strategies that should characterize the mastery-oriented goal structure in physical education. These primarily target the individual student, while acknowledging the importance of a supportive environment. Physical education (PE) should:

- ☐ Emphasize developing knowledge, attitudes, and confidence that support lifelong physical activities such as jogging, dance, swimming, strength training, bicycling, walking, hiking, and so on.
- ☐ Emphasize developing behavioral skills such as self-assessment, self-monitoring, goal setting, and communication.
- ☐ Use active learning strategies such as brainstorming, cooperative groups, simulation, and situation analysis.
- ☐ Emphasize enjoyable participation in physical education class.
- ☐ Ensure safe access to safe spaces and facilities for physical activity in the school and the community.
- ☐ Discourage use or withholding of physical activity as punishment.

Physical education should contribute to daily activity levels of children and move them toward adopting a physically active lifestyle. In the elementary grades physical education should provide activities and games that involve being physically active and having fun. Attention should be given to promoting basic motor skill development that will enable children to be active throughout life. Fitness test performance should be de-emphasized, particularly for grading. Low-fit children should be targeted to encourage an appropriate level of physical activity (Corbin, 1994).

At the secondary level, it is important to keep experiences in the locker room and the gymnasium from making students feel incompetent or embarrassed. Physical appearance is very important to teenagers and they may feel that physical education jeopardizes their appearance (e.g., unattractive uniforms, lack of shower facilities, lack of time for grooming, etc.). These issues should be addressed in planning the PE program. Students should be offered a variety of activities from which they may choose and should be encouraged to plan a personal fitness program. As with elementary students, fitness testing should be designed for self-evaluation, not grading. The program will have maximum chance for success if the school is equipped with facilities for a modern fitness program, including well-equipped classrooms, weight rooms, dance and exercise rooms, walking trails, running tracks, and other facilities (Corbin, 1994).

Promoting Healthful Nutrition

Strategies for promoting healthful nutrition in the school setting fall into three areas: (a) making the food environment more health-enhancing (e.g., make healthful foods more available, provide role models, provide cues such as posters); (b) enhancing personal characteristics that will support healthy eating (e.g., make the connection between food and health, teach the importance of balancing food intake and physical activity, increase students' confidence in their ability to make healthy choices); and (c) enhancing behavioral capabilities that will support healthy eating (e.g., allow students to prepare and taste snacks, have students select healthy foods at a fast food restaurant, help students record their food intake, and have students set their own goals for healthy eating) (CDC, 1996). Strategies that affect the school environment are targeted at school-level change, while strategies involving changing student characteristics and behavioral skills are individually focused, and are often implemented in classroom settings.

Caldwell and colleagues (1998) provided action steps to implement the CDC Guidelines for school-level change. First, a coordinating group should be established to assess school nutrition needs and develop a strategic plan for addressing those needs. Second, policies should be developed from the strategic plan that reflect healthy eating as high priority in the school. Families and community organizations should be part of this planning and development process. Third, adequate funding should be secured for school meal programs and the hiring of qualified school nutrition managers and directors. Fourth, nutrition education should be taught as part of a behaviorally oriented comprehensive health education program and all involved staff should have appropriate in-service training. Finally, ongoing assessment of the effectiveness of school nutrition efforts should be conducted in order to continually improve the program.

There are several resources available for improving school food programs. Through the Team Nutrition Program and the Nutrition and Education Training Program, USDA provides technical assistance and training materials for food service staff and nutrition education materials for students, their families, and educators. Other resources for school food services are provided by the National Food Service Management Institute, American School Food Service Association, and the School Food Service Foundation (Caldwell et al., 1998).

The CDC recommends that nutrition education focused on individual behavior change should:

- ❑ Use a behavioral focus that is developmentally appropriate and culturally relevant;
- ❑ Use active, participatory learning strategies;
- ❑ Provide fun activities;

- Provide repeated opportunities for students to taste foods that are low in fat, sodium, and added sugars, and high in vitamins, minerals, and fiber;
- Emphasize the positive, appealing aspect of healthy eating patterns;
- Highlight benefits of healthy eating behaviors in the context of what is already important to students; and
- Use social learning techniques such as role modeling, providing incentives, enhancing students' self-confidence in their ability to make dietary changes, developing social resistance skills, working to overcome barriers to behavior change, and goal setting (Caldwell et al., 1998).

Strategies for promoting healthful nutrition should be developmentally appropriate and, therefore, specific strategies will vary by grade level (e.g., elementary, middle, and high school). Strategies at the lower elementary level should focus on providing basic information on the connections between diet and health, and on increasing students' confidence in their ability to make healthful eating choices by gradually building up their food selection and preparation skills. The program should provide many healthful foods to taste in an enjoyable social context and allow students to prepare healthful snacks. Colorful cues for healthful eating (e.g., posters) and incentives, such as tokens or verbal reinforcement for healthful selections, may also be helpful (CDC, 1996).

At the upper elementary levels, instruction should address both immediate and long-term benefits of healthy eating. The food pyramid guidelines for healthy eating should be taught, along with skills for identifying the specific nutrient content of foods (e.g., high or low in fat, saturated fat, cholesterol, added sugars, etc.). Instruction should continue to develop students' skills in healthy food selection and preparation and continue to provide opportunities to taste a variety of foods in a positive social context. Students should be taught to assess social and other influences on eating behavior and to develop self-assessment, goal setting, and monitoring skills for their own dietary behavior. Parents should be involved in nutrition education through homework activities.

At the middle and high school levels, many of the same strategies apply, but at a more sophisticated level, with more depth into the science of nutrition. Students should become more skilled at understanding influences on eating behavior and developing the confidence and skills to manage their own eating behavior. They should be assisted in developing more advanced skills in the selection and preparation of healthful foods (CDC, 1996).

Providing a supportive environment for healthful eating will reinforce the messages provided through classroom instruction in health education. Classroom instruction should be oriented to facilitating the development of skills needed to adopt and maintain healthful eating behavior. Screening for nutritional problems in children and youth can identify individuals with nutrition-related health problems and ensure that the dietary requirements of special needs children are met (Caldwell et al., 1998).

Ideally, messages and environmental changes to promote physical activity and healthful eating practices will be reinforced through multiple channels, and not be limited to "traditional" instruction in physical education and health education. Theoretical and empirical evidence supports a multicomponent, multiple-strategy approach to promoting physical activity and healthful eating. This approach has instructional, service, and policy components, and uses resources and expertise from the school and community. All adult faculty and staff, family members, and community members can play an important role by advocating for a school environment that is healthy and safe for everyone.

Preservice and In-Service Training

Planning, implementing, and evaluating physical activity programs require trained personnel. Compared to nonspecialists, physical education specialists teach longer, spend more time developing skills, and provide more moderate-to-vigorous physical activity. According to CDC recommendations, schools should have physical education specialists across grades K-12, and elementary school teachers should be specifically trained in health education. Health education specialists should be provided in middle and high schools, and only qualified individuals should coach and work with youth in sport and recreation programs. Preservice and ongoing in-service training for specialists is recommended (CDC, 1997).

All elementary and secondary teachers in disciplines such as home economics, language arts, physical education, and science should receive in-service and preservice nutrition education training. Effective training programs: (a) are designed to meet specific needs of teachers; (b) model behavioral change techniques and provide teacher practice in using them; (c) involve multiple sessions over time so that teachers can try out newly learned techniques in class; and (d) provide posttraining sessions so that teachers can share experiences with peers (CDC, 1996).

Continuing education should also be offered to school food service personnel to enable staff to reinforce nutritional messages from the classroom and to help shape an effective school nutrition policy (CDC, 1996).

Roles for School Psychologist

There are at least four possible roles for the school psychologist in promoting healthful eating and physical activity in school settings. First, the school psychologist can be an important member of the school health team and play an active role in school planning to promote effective physical activity and nutrition instruction. Second, the school psychologist can be a very credible advocate for healthful schools in the community. Some ways the school psychologist can advocate for healthful schools include being a spokesperson in professional organizations, becoming involved in local or state coalitions whose mission is to promote school health, and speaking on behalf of the healthy school concept to decision-makers (e.g., school district and school administrators, school boards).

A third role in the school setting involves collaborating with physical educators, health educators, school nurses, coaches, and others to encourage appropriate referrals for mental health services (Seefeldt, 1998). Self-concept and body image issues are often associated with physical activity and eating. Students struggling with these issues may reveal their difficulties, intentionally or unintentionally, to those working to promote physical and nutritional health. Therefore, it is important that staff know how to recognize these students and how to make referrals to the school psychologist. School psychologists can provide in-service training to physical and health educators on eating disorders and can arrange for appropriate follow-up and treatment.

Finally, the school psychologist can serve as a positive adult role model in the school setting by participating in adult wellness programs. Wellness programs for faculty and staff can provide on-site opportunities for physical activity and screening for risk factors. Faculty and staff can become active role models within their school and by eating nutritiously in the school cafeteria. Staff who are educated and motivated to eat healthful foods are good models and tend to be effective educators (Seedfeldt, 1998; Caldwell et al., 1998).

MODEL PROGRAM: CATCH

Although it does not address all of the components of a true coordinated school health program, the Child and Adolescent Trial for Cardiovascular Health (CATCH) is one of the more notable intervention projects to promote physical activity and healthful eating in a school setting (Luepker et al., 1996). Sponsored by the National Heart, Blood, and Lung Institute, CATCH had three phases. First, a feasibility study was conducted at four sites. Second, a 4-center field trial was undertaken that evaluated the effectiveness of an elementary school–based cardiovascular health promotion program in 56 intervention and 40 control schools during grades 3 to 5 (CATCH II). Third, a three year longitudinal follow-up study was conducted with the CATCH II participants (CATCH III) (Nader et al., 1999).

After baseline data were collected, CATCH II schools were randomized into two groups: intervention (56 schools) or control (40 schools). The intervention schools were further randomized into two equal subgroups—one received a school-based program consisting of school food service modification, PE interventions, and the CATCH curricula (28 schools) and the other received the same school-based components plus a family-based program (28 schools). The intervention was implemented in grades 3 to 5. The control schools received the usual health curriculum, physical education, and food service programs. Program effectiveness was assessed by two primary school level endpoints—changes in food service and physical education. The goal of CATCH food service (Eat Smart) was to reduce the fat content and sodium content of the food served. For PE the goal was to increase the amount of time that students were engaged in moderate to vigorous physical activity. Individual-level outcomes assessed were serum cholesterol, self-reported dietary fat and sodium intake, self-reported time in moderate-to-vigorous physical activity, blood pressure, and psychosocial factors (e.g., knowledge, intentions, social reinforcement and support, and perceived self-efficacy). The secondary study comparison, the addition of the home/family component, was addressed by examining the differences between the above factors in the two conditions excluding serum cholesterol levels (Luepker et al., 1996).

Eat Smart was designed to provide children with tasty meals lower in total fat (to 30% of energy), saturated fat (to 10% of energy), and sodium (600 to 1000 mg per serving) while maintaining recommended levels of essential nutrients and child participation in the school meal programs. Food service personnel participated in a 1-day training at the beginning of each year with monthly follow-ups and booster sessions. The CATCH PE component of the intervention sought to increase the amount of enjoyable moderate-to-vigorous physical activity during class to 40% of class time. The physical education specialists and teachers had 1 to 1 _ days of training each school year. The classroom component of the intervention included the Adventures of Hearty Heart and Friends, Go for Health-4, and Go for Health-5 curricula. The number of lessons and weeks of implementation for the curricula varied across grade levels (15, 24, and 16 lessons during 5, 12, and 8 weeks in grades 3, 4, and 5, respectively). Each lesson was 30 to 40 minutes in length.

The curricula targeted specific and psychosocial factors as noted above and involved skill development focusing on physical activity patterns (e.g., increasing leisure time activity and decreasing television-watching) and eating behaviors (e.g., selection and preparation of foods low in sodium and fat). (Luepker et al., 1996). At grade 3, The Adventures of Hearty Heart and Friends was teacher led and included skill training, modeling by cartoon characters, and food preparations. At grades 4 and 5, Go for Health was teacher led and included behavior monitoring, goal setting, and skills training (Perry et al., 1990).

The home component of the intervention involved activity packets that complemented the classroom curricula. These packets were sent home with children and required adult participation to complete. There were 19 activity packets over the course of 3 years. In addition, in grades 3 and 4, students invited family members to a family fun night to culminate the classroom activities. The family fun nights included dance performances by students, food booths with healthy snacks, distribution of recipes, and games. CATCH also had a fifth-grade tobacco use prevention component, which will not be discussed in this chapter (Luepker et al., 1996).

Outcome measures at the school level were obtained by trained observers who monitored food service menus and meals and children's activity level in PE. Outcome measures at the individual level were obtained by classroom-administered questionnaires and dietary recall surveys. Physiological outcomes were measured via venipuncture samples for cholesterol, blood pressure cuffs, triceps, and subscapular skin folds for percentage of body fat, and a group-administered 9-minute run for aerobic fitness (Luepker et al., 1996).

Intervention schools achieved a greater reduction in school lunches' energy from fat (from 38.7% to 31.9%) than the control schools achieved (38.9% to 36.2%). Thus, the intervention schools approached the recommended level of no more than 30% of calories from fat. Self-reported daily intake of calories from fat was also significantly lower among students in the intervention schools (32.7% to 30.3%) compared to controls (32.6% to 32.2%). The intensity of PE classes increased significantly in intervention compared to control schools, with significant increases in daily vigorous physical activity in intervention students compared to controls (58.6 versus 46.5 minutes). However, blood pressure, body size, and cholesterol measures did not differ between the two groups (Luepker et al., 1996).

In the CATCH III 3-year follow-up study (in grade 8), the lower fat intake difference between the intervention and control group students declined somewhat but maintained a statistically significant difference (31.6% for control compared to 30.6% for intervention). The level of physical activity in the two groups declined over time but the level remained significantly higher in the intervention group (30.2 minutes in intervention compared to 22.1 minutes in controls). Significantly higher levels of dietary knowledge and dietary intentions were maintained in the intervention group compared to the control group in the eighth grade. There were no differences between the groups for physiological measures of body mass index, blood pressure, or cholesterol (Nader et al., 1999).

CATCH provides some of the strongest evidence available in support of school-based programs to influence physical activity and dietary behavior in the upper elementary grades (Stone et al., 1998). Several smaller and less comprehensive studies at the high school level have had modest positive impacts on physical activity levels (Stanford Adolescent Heart Health Program and Project Active Teens); several more are underway (LEAP and Adolescent Computer-Based CVD Curriculum and Advocacy) (Stone et al., 1998).

SUMMARY

Coordinated school health programs that include effective physical education, health education and school food services can contribute to the health, academic performance, and well-being of children. Effective programs combine active learning strategies to help children develop skills to be physically active and to eat nutritiously with a physical and social environment that supports these behaviors. School psychologists can play an important role by advocating for healthful schools in the community, serving as a member of a school health team, working with other school staff, and modeling healthful behavior.

RECOMMENDED RESOURCES

Coordinated School Health Programs

Marx, E., Wooley, S. F., & Northrop, D. (Eds.). (1998). *Health is academic: A guide to coordinated school health programs.* New York: Teachers College Press.

This volume presents a chapter on each of the eight components of a coordinated school health program. Each chapter includes an overview of the issues pertaining to that component, a description of how the component is typically implemented, action steps for implementing the component, and ways to integrate the component into a coordinated school health program. There are also chapters that address actions for state and federal organizations could take to support coordinated school health programs.

Centers for Disease Control and Prevention. (1995). School health policies and programs study (SHPPS): A summary report. *Journal of School Health, 65* (8), 281-353.

This issue of the *Journal of School Health* reports the results of a nationwide study on the implementation of components of a school health program, including physical education, health education, nutrition services, health services, and healthy school environment.

Nutrition and Physical Activity

Centers for Disease Control and Prevention. (1996). Guidelines for school health programs to promote lifelong healthy eating. *Morbidity and Mortality Weekly Report, 45* (RR-9), 1-41.

These Guidelines are a compilation of research and practice related to nutrition services in schools. They provide background information and detailed recommendations to improve nutrition services in schools.

Centers for Disease Control and Prevention. (1996). Guidelines for school and community programs to promote lifelong physical activity. *Morbidity and Mortality Weekly Report, 46* (RR-6), 1-36.

These Guidelines are a compilation of research and practice related to promoting physical activity for youth in schools and communities. They provide background information and detailed recommendations to promote lifelong physical activity.

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The above four citations refer to key articles that describe the CATCH intervention and report the positive impact that the program had on dietary behavior, physical activity, and school environment.

Pate, R., & Hohn, R. (Eds.). (1994). *Health and fitness through physical education.* Champaign, IL: Human Kinetics.

This book provides a series of chapters that describe, in a fun and confidence-building manner, how to implement physical education programs in a way that promotes health and lifelong adoption of physical activity.

Martin, J., & Conklin, M. (1999). *Managing child nutrition programs. Leadership for excellence.* Gaithersburg, MD: Aspen.

This comprehensive book provides the history of school food service policies and programs, information on managing child nutrition programs, and current educational and environmental approaches to promoting healthful eating.

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CHAPTER 10:

Preventing School Problems & Promoting School Success Through Family-School-Community Collaboration

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The chapters of this book offer a wide variety of strategies and model programs that have demonstrated efficacy in preventing school problems and promoting school success. The information presented encourages optimism; we have tools available that will allow us to help more children become happy and productive adults. That is the good news. But there is also bad news: not one of these prevention strategies or programs can be relocated exactly as described to your school and be expected to work. There are two reasons for this problem. First, for prevention to be successful, schools must move from a traditional reactive, remedial approach to a more proactive, preventive approach. This transition will require significant changes in current practices and change is exceedingly difficult. Second, "model" programs often fail when removed from the "hothouse" in which they were developed (Schorr, 1997).

Nearly all educators have endured the frustration of watching a parade of good (and some not-so-good) programs, ideas, and reforms march through their schools, only to have them fade and be forgotten once the program patron loses interest, or the superintendent changes, or the next big idea comes along. Mandated, "top-down" change arouses suspicion and resistance among those who believe they have seen this all before. The major lesson of failed school reform efforts is that even highly successful programs cannot be transplanted wholesale from one setting to another and be expected to work (Schorr, 1997). Although a local school or agency may be willing to try a program, each school and community has unique local resources and liabilities, making it impossible in the new context to match the characteristics that led to the

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program's initial success. Furthermore, seeing a program "up and running" tells very little about how the program achieved its success (Fullan, 1999).

If transplantation won't work, must each school achieve change by creating its own programs from scratch? Clearly not. Constantly reinventing the wheel is wasteful. Children's problems are far too complex for individual schools to work completely alone in solving them. Individual schools and community agencies provide enthusiastic individuals willing to work toward change and they have detailed knowledge of their settings that are necessary for change to occur. However, without some means to translate that enthusiasm and knowledge into useful programming, "bottom-up" change efforts fail just as "top-down" change efforts do (Fullan, 1999).

There must be a mechanism by which an individual school or district can examine its own strengths, priorities, and resources and use this knowledge to select and modify potentially valuable prevention programs. By combining what is known about the local context with what is known to work in other similar contexts, schools increase their chances of creating meaningful change that improves programming for children. Effective collaboration can be that change mechanism.

This chapter begins with a brief definition of collaboration, followed by examples of collaborative efforts that fall somewhat short of the goal of true collaboration. Then a detailed description is provided of the necessary components of collaboration. Strategies are presented that individual school psychologists can use to encourage greater collaboration and attention to prevention in their schools. Finally, specific examples are given of collaboration as a prevention tool.

COLLABORATION BRIEFLY DEFINED

Collaboration is an overused and underdefined term. When several individuals are working together on a problem, when local businesses work with school staff to provide mentoring, or when a community mental health agency opens a school-based clinic, it is likely that the participants will describe their work as collaborative. However, true collaboration may or may not be occurring. Collaboration, as the term is used here, means that *diverse individuals*, with complementary areas of expertise, work as *equal* partners to create shared goals, plans, and activities. *Trusting relationships* are developed and resources, *power, and responsibility become shared*. Individual contributions are blended to create new, more effective solutions to problems. Collaboration encompasses far more than simply working together; it involves fundamental restructuring of *how* individuals or agencies work together. Thus, the term "collaboration" should be reserved for a very complex type of relationship among individuals and agencies.

Kagan (1991, cited in Read & Hanft, 1999) addresses this complexity in describing a hierarchical arrangement of organizational relationships. At the simplest level, individuals or agencies may *cooperate*, establishing informal working relationships that allow greater understanding on both sides, but without any official action by an organization. For example, a school career day in which local businesses participate represents a cooperative effort. At the next level, agencies may *coordinate* services, while remaining autonomous in their day-to-day operation. This level includes bringing mental health services into the school, but without any significant changes in how the school or the mental health agency functions. When individuals or agencies *collaborate*, traditional boundaries are blurred, mutual goals are developed, and resources are shared in the promotion of improved outcomes.

As noted above, many programs and initiatives are described as collaborative, but they actually involve only cooperation or coordination. These initiatives might more accurately be termed "quasi-collaborations." They look deceptively similar to true collaboration; however, they embody some but not all of the necessary principles. Misidentifying these efforts as collaborations can be harmful to the extent that it leads to a belief that collaboration is ineffective. The following examples illustrate the ways in which people work together without collaborating, thereby highlighting elements of true collaboration.

Parent Involvement Initiatives

The benefits of involving parents[1] in education are well documented (Henderson & Berla, 1994). However, many parent involvement efforts are completely school directed. That is, programs are developed by school personnel to meet needs that are defined by the school with methods that fit the school's organizational structure. For example, if school staff members have improved reading in the primary grades as a goal, they may develop a series of evening workshops designed to teach parents how to read with their children. Parents who understand and share that goal, whose work schedule permits them to attend, and who are not intimidated by participation in workshops, are likely to benefit. However, parents who do not understand, work at night, or fear looking foolish in front of teachers, likely would not participate. Their nonparticipation may be misinterpreted by school staff as a lack of caring about their children's academic progress and these parents may become labeled as "hard to reach." Although such a program may be viewed as a collaborative effort by its developers in that educators are working with parents, its "one size fits all" approach and expert-to-novice construction identify it as a quasi-collaboration.

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[1] "Parent is defined as any individual who fulfills a parenting role for a child; it should not be inetrpreted as meaning only a biological parent.

A more genuinely collaborative approach would involve key stakeholders (including teachers, administrators, community leaders, and family members), each with specific and recognized expertise, developing a set of shared goals and priorities for interventions. If improved reading became the top priority, the group would brainstorm a variety of approaches to accomplish the goal. It would be understood that no single approach could meet the needs of all families. By involving a variety of stakeholders, a greater number of potential solutions may be generated. For example, workshops might still be part of the process but their timing and location could be different. Adults other than parents might become part of the effort through an after-school day care or library program. Parent-to-parent initiatives, capitalizing on individual families' knowledge of the local context and culture, might be formed. Because the voices of families and educators would be heard in the planning process, both sides would develop a better understanding of the constraints faced by the other, and blaming the other side for problems would likely be reduced. Natural feedback mechanisms would be expected to develop that allow the program to grow and change as conditions warrant. As a result of collaboration, a more flexible and inclusive family-school reading program would be in place.

School and Business Partnerships

Businesses depend on the education system to produce workers who are prepared for an increasingly technical workplace. Therefore, many businesses have embarked on partnerships with schools to encourage higher quality education. Besides the obvious outcome of increasing the pool of skilled workers, businesses may benefit from partnerships with schools through enhanced public image and increases in employee morale (Einolf, 1995). As schools have been pressured to be more entrepreneurial in seeking resources from outside their typical funding streams (Adelman & Taylor, 1999) businesses have been a natural target of these efforts. A wide variety of programs have been implemented from the simple (e.g., having speakers from local businesses encourage students to stay in school) to the complex (e.g., a local business provides technical assistance to the school in setting up student-run businesses) (Rogers, 1996).

Not surprisingly, given major differences in orientation, methods, and activities between schools and businesses, these initiatives often fall short of true collaboration. For example, Rogers' (1996) description of collaboration for effective career planning includes many elements that are consistent with true collaboration (e.g., involvement of multiple stakeholders in program development, sharing responsibility for program implementation and evaluation). However, the programs she described seem designed primarily to meet the school's self-defined needs, rather than accomplishing shared goals, and the initiatives rely on the altruism of the business partners, rather than concrete benefits, to maintain the partnerships (e.g., a local restaurant helps a middle school run its school carnival). This quasi-collaborative pattern may contribute to her conclusion that partnerships are easy to create but difficult to sustain.

Einolf (1995) provided an excellent case study of the negative outcomes that can accrue from poorly implemented school-business "collaborative" programs. Working in an urban district, she compared two school mentoring programs for at-risk students in fourth grade. Both schools were responding to a district mandate to implement the mentoring program developed by central office staff. The principal in school A took a hierarchical approach, distributing the policy and instructing teachers to cooperate. Teachers interviewed in this school were resentful, seeing the program as flawed and an imposition. They were concerned about possible harm to children, but felt powerless to change the program. Although real problems in the program were identified (e.g., poor matches between mentors and students, confusion among mentors about their functions), the program was rigidly maintained. By con-

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trast, in school B a school-based team developed the mentoring program without assistance from the central office. The team was "enthusiastic about their mentoring program because they had developed and implemented it together and could make changes whenever appropriate. They reported that they worked well together, trusted each other and could see academic and social improvements in children who had mentors" (p. 453). Obviously, school B took a more genuinely collaborative approach and apparently experienced greater success with the program.

Interestingly, neither school successfully involved parents in the program. Most parents were unaware that their child was involved in the program, despite efforts by school B to notify them through a school newsletter. The parents interviewed were surprised and concerned that the school would allow a non–district employee to be alone with their child without their permission. They (probably accurately) interpreted their lack of inclusion as evidence that the school believed they did not care about their children. Thus, by not being fully collaborative, even the more collaborative of the two programs had the unintended negative effect of reducing families' confidence and trust in the school.

School-Based and School-Linked Health Services

Perhaps in no other area have there been more quasi-collaborations than in the school-based health services movement. Throughout the literature describing school-based and school-linked services, one often senses a subtle (and sometimes not so subtle) message that schools are broken and community services can fix them. For example, referring to schools, Dryfoos (1994) stated, "It is very difficult to take an underfunded, overcrowded, inadequate institution and remake it into a fully functioning place" (p. 99). Although this is a true statement, Dryfoos offered little similar criticism to the community agencies that are being tapped to help. Clearly, these agencies may also be less than adequately funded, staffed, and functional (Dupper & Poertner, 1997; Schorr, 1997). And although it may be true that many successful school-based mental health programs are controlled by outside agencies and not schools (Dryfoos, 1996), beginning with the assumption that the outside agency is functional and the school is not forms a poor basis for collaboration and partnership.

Such assumptions encourage efforts to simply coordinate community services and place them on or near school grounds, rather than truly collaborating. In discussing this approach, Adelman and Taylor (1999) note that service coordination models have positive effects, such as enhancing the accessibility of services and improving efficiency; however, frequently there are unrecognized costs. When community agencies set up shop in schools, school personnel often feel threatened and discounted, administrators may wrongly assume that children's nonacademic needs will be effectively addressed without further school assistance, and policymakers may view these services as a replacement for school-owned services. However, in most cases, even combining the resources of the community agencies and school-based mental health providers is insufficient to address the needs of all at-risk children (Adelman & Taylor, 1999), making these unrecognized costs unacceptable. These kinds of quasi-collaborative initiatives have led some to conclude that collaboration does not work, a logical conclusion when the coordination of services becomes an end in itself rather than a means to better outcomes (Schorr, 1997).

Kentucky's Family Resource Centers movement is an example of a program with excellent goals and some positive outcomes that appears to fall short of true school-community collaboration in its implementation. Kentucky's statewide family resource center movement was mandated by the Kentucky Educational Reform Act of 1990, which, in turn, was prompted by a state supreme court ruling declaring the public school system unconstitutional. Although the initiative recognized that community-based systems also were failing children and families, the effort was primarily directed at improving schools. The limitations of the collaboration between the family resource centers and their host schools are revealed in the following passage:

> It appears to be more desirable to have a family resource center physically located apart from the school so that the center and its staff can have the necessary degree of autonomy from the school and its administration. Family resource center directors who are too dependent on the school administration for office space and supplies may be easily co-opted or may find themselves being asked to perform duties not consistent with their official job duties" (Doktor & Poertner, 1996, p. 297).

Rather than distancing the center from the school as a solution to real conflicts, a more collaborative approach would involve working actively with the school to determine what resources are

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available, what additional resources are needed, and how job roles can be most effectively defined.

Waxman, Weist, and Benson (1999) provide a second example of the challenges of collaboration in mental health initiatives. These authors eloquently describe the many tensions that exist between school and community-based service providers as they attempt to collaborate in the provision of mental health services. They offer a variety of sensible strategies designed to encourage more effective collaboration. But in their discussion of space limitations in schools, they offer evidence of how difficult it is to maintain a collaborative posture in the face of intractable problems. They state that "a program may need to threaten to leave the school to provide services elsewhere if space issues cannot be rectified" (p. 248). Under a collaborative framework, school and community-based staff would work together to devise solutions to the space problem. Although new and creative uses of space might be worked out, changes in the nature of the mental health services provided might also be initiated to accommodate the physical realities of the school building. The use of threats as a means of accomplishing goals is incompatible with a truly collaborative approach.

As a final example, Zetlin, Ramos, and Valdez (1996) described a school-based mental health center program that appears fairly collaborative in its development and implementation. Both educational and family outcomes are valued and the school is an active partner in the governance of the center. The program emphasizes the importance of ongoing communication between teachers and family center staff. However, there are also indications that the school and center still struggle with true collaboration. The authors discussed a number of complaints the teachers had about the center (such as students missing instructional time, too much paperwork, not enough feedback from the center); the solutions discussed focus on helping teachers understand the work of the center and helping them see its benefits. Although these solutions should clearly be part of the collaborative effort, they do not reflect any simultaneous effort by the center staff to understand the teachers' concerns and to appreciate the seriousness of these concerns. Again, a more collaborative approach would involve engaging in joint problem-solving with attention given to the concerns of both sides.

Although these examples of quasi-collaborations do not meet the definition of collaboration supported here, it must be remembered that these programs represent good-faith efforts to improve services to children and youth. And they have produced positive outcomes in many cases. In some of the examples, high levels of collaboration were attempted, but the difficulties noted show how challenging it is to develop and maintain a collaborative stance. However, in other cases, what was called collaboration represents surface-level changes (e.g., program location) rather than a real restructuring of service delivery. Clearly, collaboration is complicated and difficult to attain, but the chances of achieving it are enhanced by understanding the principles on which it is based.

ELEMENTS OF COLLABORATION

The literature primarily contains rather amorphous descriptions of collaborative processes. There is commonality among the descriptors but precise definitions are rare. Consistent with the idea that there are specific, key ingredients that must be present for true collaboration to occur, these essentials can be summarized with the acronym CORE (see Table 1) (Vickers, 1996). That is, any initiative that is collaborative must result in the participants' developing greater Connection, Optimism, Respect, and Empowerment. Connection, or the development of trusting relationships, is achieved through the other three elements. Although the table shows each element separately, with its associated beliefs and activities/processes, in practice all of these beliefs and activities interact dynamically with one another to produce collaborative working relationships. Improved outcomes for students are shown as shared across all four elements to highlight that collaboration is a means, not an end in itself. Each of the elements is described below.

CORE Element: Connection

Nearly every description of collaboration cites the formation of trusting relationships among the participants as critical (e.g., Fullan, 1999; Mitchener & Field, 1998; Read & Hanftt, 1999; Trickett, 1997). McDaniel, Campbell, and Seaburn (1995) stated: "If we were to list the top three ingredients for effective collaboration, they would be relationship, relationship, relationship" (p. 296). When unsuccessful collaborations are examined, failure to develop relationships is considered central to the problems (Flook,

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TABLE 1

The CORE Model of Collaboration

CORE Elements	Associated Beliefs	Activities/Processes	CORE Outcomes
Connected	Others are trustworthy.	Identification of shared goals. Interdependence. Effective use of conflict.	The development, implementation, and ongoing evaluation of activities and programs that create improved academic, social, and behavioral outcomes for a greater proportion of students.
Optimistic	Problems are system problems. No individual is to blame. Others are doing the best they can.	Sustained effort. Commitment to individual action.	
Respected	Others have different, but valid, expertise. Differences are accepted and valued. Others have something to teach me.	Inclusion of all stakeholders, including students. Creative problem solving. Incorporation of external ideas.	
Empowered	All participants are partners. Everyone can develop new skills when given the opportunity.	Shared power and decision making. Identification and development of shared resources. Incorporation of internal ideas.	

1997, cited in Waxman et al., 1999). Trusting relationships are crucial because of the complex nature of the collaborative process. These relationships support several crucial tasks of collaboration.

Development of Shared Goals and Common Vision— One of the early tasks of any collaboration is the development of a set of shared goals and a common vision for the outcomes. Even within a single school building, the presence of shared goals cannot be assumed; these must be explicitly negotiated. In some organizations, these initial negotiations may have to include developing a shared understanding of the value of collaboration as a means to implement change, as well as accepting the value of including multiple stakeholders in the process. The task is challenging because the collaborators represent different professions, viewpoints, and priorities. They may come from different ethnic, socioeconomic, and language backgrounds. In collaboration there is shared decision making and shared resources instead of hierarchical power relationships and independent finances. Significant conflicts are likely because these changes require interdependence rather than the autonomous functioning that is usually valued in school settings (Barott & Raybould, 1998). However, these differences among individuals provide the raw materials for new solutions to old problems, if conflict is used constructively.

Constructive Management of Conflict—The function of conflict in collaboration deserves closer attention. Disagreement and conflict may be dealt with by denying that conflicts exist or by embracing conflicts as energy for change. School personnel are socialized to believe that conflict is bad and should be avoided at all costs (Swap, 1993). With regard to home-school relationships, Swap notes that this pattern tends to result in "an unsatisfying cycle in which most conflict (even normal, useful conflict) is driven underground; the conflicts that do emerge tend to be explosive, threatening, and personalized; and the aftermath of these explosions reinforces the need for ritualized management of home-school relations" (p. 21). Educators tend to minimize conflict in other areas of their work life as well because they value collegiality, cordiality, and equality; these work norms lead to poor handling of situations in which aggression and power are asserted (Hart, 1998). By denying that conflicts exist, initial efforts to work together may proceed more smoothly; however, conflicts will erupt later, usually at a time when it is too late to resolve them, resulting in complete derailment of the collaborative process (Fullan, 1999). Further, conflict avoidance, with its concomitant pressure to conform, may lead to the suppression of good ideas, a loss of creativity, and less effective problem solving (Hart, 1998). It is particularly unfortunate that conflict avoidance may be endorsed in the name of group cohesion and positive relationships.

Connected, trusting relationships, as defined here, form the foundation of collaborations that not only tolerate conflict but also embrace it and use it constructively to accomplish goals. Constructive use of conflict requires acceptance that individuals will have differences of opinion, some strongly held; these differences are viewed as strengths and assets to the problem-solving process (Fullan, 1999). Through the use of effective communication strategies, conflicts can be aired. Some differences may be resolved; others simply may be accepted. Clearly, this process is made easier if you believe that the other person is trustworthy, is working toward a mutually held goal, and has positive regard for you—in short, if you have a connected relationship. As stated by Fullan (1999): "[Collaborative] schools and organizations know that the quality of relationships is central to success. Success is possible if organizational members develop trust and compassion for each other, i.e. for others different than themselves" (p. 37).

CORE Element: Optimism

Dryfoos (1994) emphasized that collaboration is exceedingly difficult to enact; it can be defined as "an unnatural act between nonconsenting adults" (p. 149). Because collaboration is so difficult, optimism among the participants is crucial. Without the conviction that the collaborative process will lead to successful resolution of problems, no one would be foolish enough to undertake it. Optimism in collaboration is promoted by several "core beliefs" associated with systemic approaches to problem solving (see Minke & Vickers, 1999, and Vickers & Minke, 1997, from which the following is adapted).

Problems Are System Problems, Not Individual Problems—Traditionally, problems are defined linearly in terms of cause and effect. For example, when a child is experiencing academic difficulties, a typical approach is to assess a variety of intrachild factors, determine a disability, and assign treatment based on this presumed cause. This approach encourages a focus strictly on child attributes (e.g., IQ, reading level, behavior ratings). When the larger developmental context is considered at all, the focus tends to be on status variables such as socioeconomic status and family structure (e.g., single parent). Because so many of these presumed causal factors are themselves not amenable to change, a sense of hopelessness results.

By contrast, collaboration is rooted in ecological and systems theories (Bronfenner, 1979; McDaniel et al., 1995). From this perspective, behavior is inextricably linked to the context in which it occurs (Pianta, 1999). The behavior of any one member of the system simultaneously affects, and is affected by, the behavior of every other member. Although individuals contribute to the environments that they experience, there is constant interplay between individuals and the social systems in which they function that affect their subsequent behavior and their interpretation of environmental cues (Bandura, 1977). Interactional patterns develop over time that are at least somewhat predictable and stable.

Problems and their solutions are not thought to reside in any single location (e.g., the child, teacher, or family); rather, risk for problems is distributed across these systems and the larger community (Pianta & Walsh, 1996). Problems are assumed to arise when there is a poor match between the demands of the environment and the resources and characteristics individuals bring to it (Christenson & Cleary, 1990). Attention is given not to the causes of problems but to the interrelated processes that maintain the problems. That is, factors such as teachers' classroom management style, curriculum difficulty, and parents' discipline methods are examined for their interaction with child-based factors in maintaining problems. Although individuals may not be aware of the ways in which they each contribute to a given problem, when problems are defined as *maintained* by these kinds of changeable processes, rather than caused by unchangeable child statuses, optimism results.

No One Person Is to Blame—It follows logically from the systemic definition of problems described above that it is fruitless to expend energy finding someone to blame for a given problem. However, blaming is a time-honored tradition, tightly coupled to the search for causes. Businesses blame schools for not producing quality graduates; schools blame families for not preparing

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children for schooling; families blame schools for not attending to their children's individual needs. Sometimes everyone joins together to blame students for their inadequacy. Blaming is attractive because it allows participants (i.e., those doing the blaming) to avoid responsibility for change. Unfortunately, blaming cannot solve problems. Those who blame feel hopeless because the problem is outside of their control; those who are blamed feel resentful and withdraw.

The alternative generated by a systemic, collaborative approach to problems is to search for the parts of the system that are most amenable to change. Each concerned individual, including the student, is challenged to discover a personal change in behavior that will contribute to improving the situation. Energy that had been directed toward blaming others and avoiding be blamed by others can be devoted to uncovering multiple solutions across the many contexts in which the problem occurs. When the focus is on individual action supported by group action, optimism results.

All Concerned Parties Are Doing the Best They Can— This belief involves taking a nonjudgmental stance toward those whose views and behavior are different from your own. If you believe that others involved in the collaboration have good intentions, targeted toward shared goals, then it follows that their views or behaviors make sense *at least to them*. The emphasis is placed on *understanding* those different from ourselves, rather than judging them as right or wrong. From this perspective, the "hard to reach" mother is presumed to care about her child's education; other factors (such as her work schedule, prior poor interactions with school staff) block school personnel from seeing that caring. Similarly, the teacher who refuses to participate in the school's problem-solving team is presumed to be a caring teacher who wants the best for her students; her refusal reflects other factors (such as her belief that special skills available only outside her class are needed for the child to succeed). By assuming that all are doing the best that they can with the circumstances and resources they bring to the collaboration, optimism results.

The process of change is slow and iterative; any one collaborative effort should be viewed as a building block for future collaborations (Pianta & Walsh, 1996; Trickett, 1997). Thus, sustained effort is a critical component of successful collaboration and optimism fuels such effort.

CORE Element: Respect

Collaboration is not intended simply to improve the relationships among those who work with children; the goal is to change the ways in which problems are approached and solved so that children's lives are made better. Improvements in programming are attained by creative problem solving, which, in turn, requires that multiple stakeholders participate in the problem-solving process. The diversity among the participants can be problematic in the absence of mutual respect; some voices will be silenced, potentially useful information will be ignored, and problem solving will be less effective. Respect as an element of collaboration encompasses the following aspects:

Each Participant Brings Different, But Equally Valid, Expertise to the Process (Trickett, 1997)—Within the mental health area, school psychologists are quite familiar with the turf and guild issues that can interfere with effective collaboration. For example, Kubiszyn (1999) cited no fewer than 11 types of professionals who might want to provide counseling services in schools. With so many groups vying for limited available resources, it would be remarkable if turf issues did not surface. Often each group makes judgments about the relative worth of the contributions of the others (Mitchener & Field, 1998) or conveys a sense of clinical superiority to the others (Flook, 1997, cited in Waxman et al., 1999), lessening the chances of successful collaboration. By contrast, collaborative respectfulness encourages a focus on what can be learned from the others' expertise. As stated by Mitchener and Field (1998): "It is only through an emphasis on learning from each other that collaborative endeavors become the means to fostering meaningful and fruitful interdisciplinary insights" (p. 500).

Respect for Individual Expertise Must Be Extended Not Just to Professional Groups But Also to Families—Parents and students must be included among the stakeholders in collaborative efforts. Parents are the frequently unacknowledged experts on their own children. They often have far deeper insights about the preferences, needs, and strengths of their community than professional groups, particularly in impoverished communities to which professionals commute (Good et al., 1997).

Students are even more frequently excluded from conversations that affect them than parents. However, students are far more likely to be aware of potential problems and resources among their peers than adults are. Other advantages to having students participate in collaborative processes include:

- ❑ The opportunity to observe significant adults working together to help;
- ❑ The opportunity to hear adults share their expectations of students;
- ❑ The opportunity to contribute solutions that increase their investment in the outcome; and
- ❑ The opportunity to witness processes first hand and not have to rely on others' interpretations of what was said.

Respect for the knowledge and insights of parents and students (and empowering families to express them, as discussed below) contributes greatly to effective collaboration.

Respect Requires Acceptance of Differences—As was noted in the discussion of effective use of conflict, some situations may be undesirable, yet unchangeable. They simply must be accepted. Barott and Raybould (1998) cited the example of differences in the role expectations of parents and teachers. Parents are rightfully concerned primarily with their own child; teachers must be concerned with the welfare of the whole group. Because this difference leads to discomfort in parent-teacher interactions, efforts to avoid or solve the problem may include keeping parents out of the school as much as possible, with the unintended negative effect of decreasing community support for schools. If this difference is respected and accepted as a "fact of life" by both sides, they are more likely to be encouraged to find ways of working with this difference toward the goals they share.

In an environment of respectfulness, new ideas from the "outside" may be given a chance; proposed programs may be met with less cynicism and defensiveness. Likewise, because it is less risky to express yourself in an atmosphere of respect, ideas from the "inside" are more likely to be explored. Respect encourages the collaborators to develop a common language and a flexible approach to problem solving.

CORE Element: Empowerment

From an empowerment perspective, each individual is viewed as having strengths and competencies, as well as the capacity to develop new competencies when provided the opportunity

(Rappaport, 1981). In collaboration, these existing and potential competencies are viewed as resources that can be applied to problem solving. Each individual is expected to share in the decision-making power of the group; thus, responsibility for success, and failure, is shared among the collaborators, not focused on a single leader or agency. When participants become empowered, they see themselves as agents for change and collaboration becomes a resource for the school and community in ongoing problem-solving efforts (Trickett, 1997).

Fullan (1999) discussed the "tacit knowledge" of individuals: the detailed understandings of the local context that cannot be known by outsiders. It is precisely this knowledge that allows successful adaptation of model programs to new environments. However, unless individuals feel empowered to express their understandings and ideas, this tacit knowledge will not be available to the problem-solving process.

Empowerment is challenging because it involves changing traditional relationships among individuals. Many parents, particularly in impoverished communities, are accustomed to behaving as "clients," not "partners" (Dupper & Poertner, 1997). That is, experts develop plans and then tell parents what to do. Concerted effort must be applied to encouraging families to voice their views and to take a more active role in the decisions that affect them. This support must be provided at all levels of collaboration when decisions that were previously made by an individual or small group are shared among a larger group of collaborators.

Significantly, this sharing of power necessitates a loss of power for whoever made the decisions in the past. School personnel are more familiar with "teaching and telling" and giving advice to families than with listening, understanding, and sharing power for decisions. Similarly, when community agencies bring programs to schools, traditional job roles and power may be shifted, resources traditionally controlled by one group may be shared, and different professional groups may fear losing some of their traditional responsibilities. These losses often go unrecognized (Mitchener & Field, 1988), but probably represent a key element in failed collaborations.

Fortunately, the fears generated by empowerment are dissipated by the presence of the other CORE elements. Schorr (1997) described successful intervention programs where traditional bureaucratic structures were "tamed" and noted that success is attributable in part to the sense of community developed among

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front-line workers. Similarly, in a study of early intervention programs, Minke and Scott (1995) found that professionals experienced greater comfort in sharing power with families in the presence of respectful, trusting relationships.

STRATEGIES FOR COLLABORATION

> *Imagine the possibility of achieving dreams and aspirations that were never attainable to you on an individual basis. Imagine thinking and working together with others who see and respond differently to the world than you do but whom you find endlessly curious, intriguing, and compelling. Imagine participating in deeply spirited, generative conversations that result in new shared understandings, as well as in creating something that never existed before. Imagine what it would be like to be part of a community of commitment, where learning and questioning were more important than knowing and certainty.*
>
> —Hargrove (1998)

> *The complexities associated with understanding child-school-community interactions over time can be so overwhelming that it becomes easier to faithfully acknowledge them while at the same time kindly ignoring them…*
>
> —Martin & Swartz (1997)

These contrasting quotes reflect the attraction and the challenge of collaboration. Collaboration is difficult, time consuming, and sometimes messy, but it offers the tantalizing possibility of solving some of schools' most refractory problems by bringing people together in more productive ways. There is a growing literature demonstrating that collaborations at all levels of the family-school-community system have positive effects on child outcomes (e.g., Adams & Nelson, 1995; Austin, 1994; Coleman, 1998; Dryfoos, 1994; Graham & Harris, 1999; Schorr, 1997; Slavin & Fashola, 1998). However, in most cases the long-term sustainability of the collaborations and the long-term outcomes remain unknown. Furthermore, empirical validation of the CORE elements described above is not yet available (i.e., do collaborations that more closely approximate the "ideal" produce better results than others?). Nevertheless, it appears reasonable in light of available evidence to pursue ways in which school professionals can develop their collaborative skills as part of planning and implementing prevention, intervention, and school improvement plans. In this section of the chapter, strategies are offered that school psychologists and others concerned with improving child outcomes can use to encourage greater collaboration (see Table 2).

Be an Effective Role Model

As noted earlier, effective collaboration is based in an ecological and systemic world view, a view that may not be familiar to many families, teachers, or administrators. Frequently, systems-oriented practitioners believe that others must be convinced to adopt a systems view before effective collaboration can begin. And although shared values do need to be developed as part of the collaboration process, it is probably counterproductive to "parade your paradigm" (McDaniel et al., 1995); with collaboration, *practicing* is far better than *preaching*. A number of skills already within the repertoire of most school psychologists can be modeled in interactions with others that will encourage others to become more collaborative. Once others observe more productive outcomes, opportunities may develop to teach the skills more formally.

Systemic Thinking—Although proseltyzing is not recommended, it is important to examine your own ways of thinking about problems and solutions. The beliefs and activities associated with the CORE model (see Table 1) underlie truly collaborative processes. Without these, attempts to work together may actually cause more harm than good (e.g., if participants leave the interaction feeling misunderstood, blamed, and less hopeful). Reading some of the "classic" literature on ecological and systems theory by Bronfenbrenner (e.g., 1979, 1986), Bertalanffy (e.g., 1969) and Watzlawick (e.g., Watzlawick, Beavin, & Jackson, 1967) may be helpful. Pianta (1999) also offered an excellent overview of systemic thinking and its application to relationships between teachers and students.

Effective Listening and Communication Skills—School psychologists and other mental health professionals are well trained in reflective listening and empathic responding. Because collaboration may lead to spirited, even emotional, disagreements

TABLE 2
Strategies for Collaboration

- ☐ Be an Effective Role Model
  - Examine your own thinking
  - Use effective listening and communication skills
  - Use solution-focused collaborative problem solving
- ☐ Create Opportunities for Relationship Development
- ☐ Attend to Resource Development
  - Assess the environment for people, settings, and events
  - Develop a resource coordinating team
- ☐ Set Priorities and Collaborate Judiciously
  - Know when a specific collaboration should not be undertaken
  - Develop an integrated approach to programming
  - Start small
- ☐ Be Persistent

TABLE 3
Keys to Effective Listening

- ☐ Attend to nonverbal communications (be alert to cultural differences).
- ☐ Listen quietly, giving the other person adequate time to speak.
- ☐ Avoid offering your own opinion initially; use an empathic response.
- ☐ Listen for strengths and positive qualities that the speaker brings to the process.
- ☐ Find positive reframes for situations or behaviors that are perceived negatively.
- ☐ Normalize, but don't minimize, expressed concerns.

among participants, it is essential that at least one person involved models active listening, nondefensive responding, and tentative interpretations. In this way, everyone's views are voiced and available for the problem-solving process. Tables 3, 4, and 5 review some of these essential skills (adapted from the CORE model).

Solution-Focused Collaborative Problem Solving— School psychologists' skills in counseling and consultation provide an excellent base for conducting collaborative problem-solving meetings. The solution-focused approach builds on those existing skills, but differs from traditional approaches in two primary ways. First, as implied by the title, relatively little attention is given to problem definition. Although part of the task in the problem-solving meeting is to develop a shared understanding of the problem and to negotiate a "solvable complaint," the majority of the meeting is spent identifying potential solutions and developing commitments from each participant to implement them. Second, unlike traditional approaches in which particular dyads or triads may work with the professional on the problem (e.g., psychologist-student, psychologist-teacher), in the solution-focused approach, all concerned parties, including the student, meet together to problem-solve.

The consultant's role includes:

- Keeping the process focused on solutions;
- Blocking participants from blaming each other for the problem; and
- Encouraging the generation of solutions by seeking exceptions (i.e., situations in which the problem does not occur) and strengths/resources that might not have been brought to bear on the problem so far (e.g., a concerned grandparent, modifications in the curriculum, or altered reinforcement contingencies).

The consultant also ensures that each individual makes a commitment to solving the problem and that adequate follow-up occurs. Interested readers should consult Carlson, Hickman, and Horton (1992), Murphy and Duncan (1997), and Weiss and Edwards (1992) for more information on these kinds of problem-solving meetings.

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TABLE 4
Empathic Responding

- ☐ Ask yourself, "What does this person need me to understand right now?"
- ☐ Give yourself time to think.
- ☐ Keep your response short.
- ☐ Avoid making judgments about whether the other person is "right" or "wrong."
- ☐ Try to find the "core message;" don't list everything the other person just said.
- ☐ Make your response flexible and tentative.
- ☐ Check out with the other person whether your response accurately captured his or her meaning.

TABLE 5
Delivering and Receiving Negative Information

Tips for Delivering Negative Information

- ☐ Limit the number of negative pieces of information to be delivered. Think about what the most important pieces of information are that the parent needs. What must be done first to begin resolving the problem?
- ☐ Be calm and wondering in your presentation. Convey confidence that the problem can be solved.
- ☐ Be clear and specific; cite observable behaviors instead of judgments.
- ☐ Be brief and ask for reaction after a couple of sentences.

Tips for Receiving Negative Information

- ☐ Actively listen and try to understand the concern fully.
- ☐ Try to understand the goal of the communication (e.g., does the person just want you to know how he or she feels, or is he or she asking for some action on your part?).
- ☐ Clarify both content and emotion (i.e., don't assume you know how the other person feels or what he or she really means).
- ☐ Do not try to explain your position until you are sure that you understand the problem and are ready to move toward solutions.
- ☐ It's OK to ask for time to think about their concerns before problem-solving about it, but you must follow up.
- ☐ If you find yourself becoming angry or upset, it is usually best to terminate the interaction until you are better under control.
- ☐ If you move to problem solving, brainstorm possible solutions; try to find something that each person can contribute to the solution (including the child).

Create Opportunities for Relationship Development

Relationships are the key to successful collaboration. Therefore, it is critical that participants (or potential participants) have opportunities to know one another and begin to respect and trust one another. If powerful members of the school or larger community are unfamiliar with or unsupportive of collaborative approaches, providing opportunities for relationship development may be an essential prerequisite to embarking on collaborative change processes. Ecological psychologists refer to this process as one of creating new "behavior settings" (Carlson, Scott, & Eklund, 1980) in which "two or more individuals come together in new relationships over a sustained period of time in order to achieve certain goals" (Sarason, 1972, p. 1, cited in Trickett, 1986). These settings can take many forms, such as planning groups or social events that allow individuals to get to know one another on a personal level (Trickett, 1986).

Through such meetings and events, stereotypes can be broken down and personal relationships can be developed. For example, traditional events such as "Back to School Night" can be reconstructed by expanding a single night event to multiple events (across varying times and locations). In this way, there are multiple opportunities for parents to meet other parents, for parents and teachers to develop more realistic perceptions of one another, and for a sense of connection and belonging to the school to develop. The creation of spaces within the school geared specifically toward the needs of families, such as family rooms or centers, also has been successful. Generally, such rooms are staffed by volunteers or paid paraprofessionals; parents can drop in for coffee, information, or classes. Parents feel welcomed in the school and teachers have the opportunity to interact with parents in a casual manner (Davies, 1991).

The behavior settings created should not be limited to those that involve parents coming to schools. Some schools have been very successful in improving family-school relationships by creating opportunities for teachers to become more visible in the community. For example, moving conferences from the school to a community center or conducting home visits prior to the start of the school year might be helpful (Swap, 1993). However, it must be remembered that attempts to create new behavior settings should be based on an assessment of local needs and resources developed specifically in response to these unique elements, as discussed in the next section.

One important behavior setting to develop as part of any collaboration is the formation of a group, such as an advisory panel, that monitors the effects of collaborative efforts. As noted earlier, diversity brings with it increased possibility of conflict; any collaboration will have anticipated and unanticipated consequences. Structured attention to the effects of the collaboration on the school and community, and communicating the knowledge gained from this analysis to all participants, allows trust to grow and encourages responsive modifications to the project (Trickett, 1997).

Of course, if school psychologists are to be in a position to influence the creation of behavior settings, they themselves must be viewed as resources. Therefore, as a first step, school psychologists should attend to developing their own relationships with diverse groups both within and outside the school. Participation in non-school-based community activities, attendance at school board meetings, and regular formal and informal communication with teachers and families should serve to increase awareness that the school has a psychologist and to increase trust and confidence in using the services of that individual. The National Association of School Psychologists (NASP) has developed resources to assist in improving school psychologists' visibility; *Practical Strategies for Expanding Services to Children and Families* is available on NASP's Web site (*www.naspweb.org*).

Attend to Resource Development

Schools operate under conditions of scarcity. Many well-intentioned and potentially effective programs are undermined because they are implemented with the "unexamined hope" that they can be accomplished with currently available resources (Trickett, 1997). Thus, if collaborations are to be successful, attention must be given to identifying unrecognized resources and conserving the resources already available.

Resources in this context are broadly defined. Financial resources are important, but should not be viewed as primary. As noted above, individuals, and the relationships among them, are resources to be assessed and developed as part of encouraging increased collaboration. Settings and events in the community are also potential resources (Trickett, 1997), as are existing prevention and intervention programs. Moan and Mellot (1997) offer guidance on methods to assess the ecological resources of schools, families, and communities.

Existing programs must be examined to determine how they are coordinated with one another and how integrated they are with the school's mission. Adelman and Taylor (1993) described a school in which several separate programs had been established for students at risk for dropout, suicide, and substance abuse. The programs provided counseling independently of one another, with no apparent recognition that many of the same students are at risk for all three problems. One strategy for addressing such fragmented efforts is the development of a "resource coordinating team" (Adelman & Taylor, 1999). This team may be an addition to other existing teams in a building (e.g., child study, site-based management), or its functions may be assigned to one of these teams. These functions include:

- Mapping and analyzing existing activity and resources;
- Evaluating existing systems of referral, case management, and quality assurance;
- Guaranteeing that there are sound procedures for management of programs and information, and for communication among staff, community, and families; and
- Exploring ways to redeploy and enhance resources (Adelman & Taylor, 1999, p. 149).

More detailed information on resource coordinating teams is available in Adelman (1993) and Rosenblum, DiCecco, Taylor, and Adelman (1995).

Set Priorities and Collaborate Judiciously

Determining Priorities for Collaboration—Time is possibly an even more scarce resource in schools than money. And it should be quite clear from the foregoing discussion that effective collaboration is a time-intensive process. Therefore, it makes sense to consider when a specific collaboration may not be the best way to proceed. If problems are identified that have been solved successfully in the past with known methods, there is little reason to engage in collaborative problem solving. The collaborative stance does not preclude individual responsibilities and actions; in fact, it encourages clarifying just what those individual responsibilities are.

Similarly, when collaborative opportunities present themselves (e.g., a new program becomes available in partnership with a university), they should not be pursued just because they are there. Such an approach results in "Christmas tree schools" in which

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multiple innovations decorate the school but have little substance (Bryk, Sebring, Derbow, Rollow, & Easton, 1998, cited in Fullan, 1999). Rather, new initiatives should be evaluated for their potential fit with what is already in place. Such an evaluation supports the "selective innovation" that is characteristic of successful schools (Fullan, 1999).

The costs of any proposed collaboration must be considered in advance. Galvin (1998) outlined three types. First, there are coordination costs associated with communication and planning (e.g., time for meetings). Second, there are opportunity costs. That is, if the school is committed to selectivity, the cost of any given collaboration includes foregoing other possible collaborations. Third, there are information costs, which are the costs associated with gathering and analyzing data about potential alternative innovations. If one or more of these estimated costs are exceptionally high for a given collaboration, the collaboration might need to be reevaluated.

A sensible strategy is to examine carefully the most pressing problems facing the school and the existing resources that address them (as described above). This analysis should form the basis for goal-setting and program planning. Of course, the analysis itself should be conducted in a collaborative manner.

Develop an Integrated Approach to Programming— "Going to school should be a unified experience for children and youth, not a discrete series of consultations with independent professionals" (Hart, 1998, p. 91). When programs are poorly coordinated or focused on a specific problem (e.g., children of divorce), it can be anticipated that children will not have the desired unified experience. Programs should focus on supporting the underlying processes that encourage children's optimal development (e.g., social decision-making and problem-solving skills). When prioritizing where to place collaborative energies, programs that involve early intervention, attention to social contexts, and common underlying factors should be preferred over problem-specific programs (Dryfoos, 1996).

Start Small—Galvin (1998) argued that unless significant changes occur in the hierarchical structure of schools and community agencies, along with changes in the funding and accountability methods currently used, collaboration cannot achieve the goal of meaningful changes in service delivery. He recommends that new interagency structures be created that emphasize evaluation of teams and accountability based on progress toward long-term outcomes. These recommendations certainly deserve attention by policymakers at the federal and state level, but they appear discouraging to front-line practitioners who may have little immediate impact on funding streams and accountability plans. However, consistent with the systems theory principles that all parts of systems are interrelated and that change in one part necessitates change in the rest, individual efforts to encourage collaboration on a smaller scale can have substantial impact on schools' day-to-day functioning. Many of the strategies outlined above can be undertaken by one person or a small group of concerned individuals wanting to improve collaboration in their setting. Several additional potential activities, targeted specifically for individual and small group action, are outlined in Table 6.

School practitioners also might seek additional training to increase their collaborative skills. A number of training programs for school psychologists and school counselors offer specific training in collaboration with families that is different from traditional consultation or family therapy courses. For example, the University of Delaware offers two courses through the school psychology and counseling programs to assist school-based practitioners in working more effectively with families. Yeshiva University offers an intensive family-school collaboration sequence as part of the school/clinical doctoral program that includes multiple courses and field placements (Silverstein, 1999). Workshops on collaboration are frequently available at national organization meetings as well.

Be Persistent—There are no quick fixes. Because collaboration depends on the formation of supportive relationships, and because relationships take time to develop, you must be patient. The time line for developing truly productive interagency collaborations may be as much as 3 to 5 years (Dwyer & Caplan, 1996, cited in Waxman et al., 1999). Even within a single school building, entrenched patterns of relating may take years to change. "Educators, like anyone else, will change when it makes sense for them to change, when the proposed change can be incorporated into their personal and professional identities, and when the support necessary to make the change is provided" (Pianta & Walsh, 1996, p. 155). School psychologists, through the strategies outlined here, can be instrumental in that process.

TABLE 6
Activities for Initiating More Collaborative Processes in Schools

Individual and Small Group Activities To Initiate More Collaborative Processes in Schools

☐ **Start a professional development discussion group.**
- Invite interested school psychologists in the district or teachers within a school to meet once per month at breakfast or lunch (or after school). When and how often to meet should be decided by the group.
- Develop a list of books, articles, or other publications that relate to collaboration. Have the group decide on which one (or a portion of one) to read for each meeting. Market it like "Oprah's Book Club" for professional development. The list of resources at the end of this chapter would make a good start.
- Use the hours for Continuing Professional Development credit for those whose professional organizations accept self-study credit (e.g., NCSP).

☐ **Improve the school's written communication to families.**
- Gather samples of routine written communications (including those related to special education evaluation); analyze these with respect to the following questions:

  Are they...
  - readable (e.g., reading level, use of jargon, attractiveness)?
  - respectful (e.g., do they reflect demands on parents or do they offer options for parents)?
  - inviting (e.g., do they encourage communication back from the family to the school)?
  - positive and supportive (e.g., are student strengths mentioned or are they strictly problem focused)?
  - adapted for parents who do not read or who do not read English?
- Develop modifications to these materials that reflect more collaborative methods.
- Create new materials that celebrate student success, provide options for families in supporting student learning, and encourage families to communicate their expertise about their children to the school.

☐ **Increase parent and student participation in your own activities.**
- Invite parents and students to participate in planning student assessments (e.g., what specific questions would they like addressed?).
- Include parents and students as active decision-makers in feedback meetings and intervention planning.

Model Programs

In this section, programs are described that provide concrete examples of what collaboration looks like within prevention initiatives. The collaborative aspects of model programs described in the preceding chapters of the book are highlighted. Finally, an overview is provided of the CoZi model of school reform, which incorporates both within-school collaboration and school-community collaboration.

Collaboration as Part of Prevention Initiatives

Given the benefits of collaboration as described in this chapter, one might expect that more successful prevention initiatives are also more collaborative. Although it is difficult to discern whether all of the elements of collaboration are present in these programs, in most cases, the models described are comprehensive, long-term, and involve multiple participants from within and outside the school community. These qualities are consistent with a collaborative approach. Some examples follow:

- Morrone and Schutz (chapter 4, this volume) discuss ways in which student motivation can be increased through teachers' sharing power with students in determining which projects to work on and selecting their own portfolio items as part of the grading process.
- Panter and Bracken (chapter 3), in their discussion of school readiness strategies, do not make the important distinction between service coordination and collaboration. However, they do emphasize the need to empower families and to reduce the barriers between families and schools through good communication and conflict resolution strategies. Furthermore, the strategies they stress in program planning (e.g., involving multiple stakeholders, creating a common vision of school readiness, involving all stakeholders in key decisions) are highly consistent with the collaborative framework presented here.
- Meyers and Landau (chapter 8) highlight the need to work with multiple stakeholders in determining community values and goals when attempting to prevent early sexual behavior and pregnancy. Some of their recommendations appear inconsistent with the collaborative framework in that they discuss the need to work in opposition to commu-

nity leaders when risk is high and community norms prohibit direct intervention with youth. However, they also recommend that school-based practitioners work to forge relationships with community leaders, provide factual information to parents, and engage in problem-solving strategies to reach consensus. Advocacy for youth and collaboration are not mutually exclusive.

- Christenson, Sinclair, Lehr, and Hurley (chapter 6) describe the "Check and Connect" program for promoting successful school completion. This program stresses the need for relationship building at all levels of the system in ways that promote mutual trust and communication. It also emphasizes improving problem-solving skills among students, teachers, and educators and providing individualized, flexible interventions that respond to specific needs.

Perhaps the clearest examples of collaboration as the foundation for prevention are found in Bear, Webster-Stratton, Furlong, and Rhee (chapter 1). The majority of the programs cited as successful in preventing aggressive behaviors, particularly in cases where behavior problems are severe, involve attention to a systems perspective and the elements of collaboration. The authors discuss the "system-of-care" approach that emphasizes building on existing child, family, and system strengths; creating family-centered partnerships; encouraging interagency networks; and providing individualized services. All of these strategies involve collaboration as defined here. The tenets of Multisystemic Therapy (MST) are similarly collaborative in nature. Both Project ACHIEVE and BASIS stress the need for collaborative problem solving and partnership with families.

The evolution of Webster-Stratton's work (see chapter 1) in parent training is particularly instructive (see Webster-Stratton, 1997 and Webster-Stratton & Herbert, 1993). Beginning in the early 1980s, Webster-Stratton and her colleagues developed and evaluated a videotaped parent training series. The initial series was clinic based, focusing primarily on therapists modeling more productive parenting behaviors to participants. Although the program was effective, participants who did not benefit tended to be those who were experiencing greater life stressors (e.g., maternal depression, single parent status, low levels of social support). Therefore, an expanded program was developed that was more family focused and that included interpersonal communication and problem-solving skills training. This program appeared even more successful than the original training. However, it left unaddressed the larger contexts in which children are expected to function. Even when parents became more successful with their children, school problems continued. Furthermore, the family program created but did not sustain the supportive relationship that participants had developed with one another. Thus, the next step was to move programs from clinics to natural community settings (e.g., schools, community centers) and to focus on family-teacher collaboration. This change resulted in increased parental participation in schools, greater positive regard between parents and teachers, increased two-way communication between parents and teachers, and improved parental empowerment.

As the program developed, the "therapist as expert" model was gradually replaced by a "therapist as collaborator" model. This program as it is now structured requires collaboration between the therapist/trainer and the participating families. Each of the CORE elements described earlier is present. Training is not something done *to* families; rather, the therapist works *with* families by "actively soliciting their ideas and feelings... and jointly involving them in the process of sharing their experiences, discussing and debating ideas, and problem solving" (Webster-Stratton & Herbert, 1993, p. 410). The therapist concentrates on building supportive relationships with families and empowering them by validating their insights, reframing powerless thoughts, and building community support systems. The therapist has expertise to share (e.g., different parenting techniques, methods of communicating with schools) but these are offered as options for exploration, not as imperatives. The expertise of families regarding their children and communities is also elicited. Specific attention is given to how parents can work effectively with teachers and to developing social support networks among families within the community.

The program does not focus only on the families. Teachers are also supported in finding ways to communicate with families and to develop relationships with families of students experiencing significant difficulties in school. Finally, families and teachers work together at the end of the school year to develop transition plans for the next grade that outline joint goals and effective strategies for working with the student. In short, by moving away from a traditional child-focused parent training model to a more collaborative, community-based model, Webster-Stratton and her colleagues increased the program's efficacy with a more diverse group of families and teachers and demonstrated the value of collaborative approaches to prevention.

The Comer/Zigler Initiative (CoZi)

In the late 1960s, a Yale University psychiatrist implemented a program designed to improve the school performance of children living in impoverished communities. James Comer's School Development Program (SDP) was based on principles of child development and collaborative process (Comer, Haynes, Joyner & Ben-Avie, 1996). At the same university but working independently, developmental psychologist Edward Zigler spent years seeking means of improving child care and preschool opportunities for children. Eventually, he developed the "Schools of the 21st Century" model to provide comprehensive family support services within school settings. The goals of this program are to provide universal access to high quality child care and strong parental support (Finn-Stevenson, Desimone, & Chung, 1998). The program also emphasizes collaboration through its flexible implementation based on local goals and strengths. Although the two programs address different problems, they share the goal of promoting optimal development of children and recognize the critical role of parents as partners in that process (Finn-Stevenson & Stern, 1997). Thus, it made sense to each of the program leaders to collaborate in creating a combined model: the CoZi school.

The SDP Model—The School Development Program recognizes that multiple developmental areas must be addressed if children are to be successful (see Comer, Haynes, Joyner, & Ben-Avie, 1996; Haynes & Comer, 1993). These developmental pathways include speech and language, physical, social, psychological/emotional, moral, and cognitive/academic. Improvement in one area may lead to improvement in others; lack of attention to one or more areas will lead to less than optimal developmental outcomes. It is considered ineffective to address these developmental pathways through strictly child-focused methods. Instead, SDP schools focus on strengthening teachers' and families' skills in working together as the means of encouraging optimal child development.

The SDP model is highly consistent with the CORE model described earlier in the chapter. It stresses the creation of nurturing relationships at all levels of the school community; attention is

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given to relationships between students and teachers, teachers and parents, and teachers and other school staff. Planning and problem solving are guided by collaboration and consensus, rather than voting and majority rule. Blaming is avoided; rather, each person involved is encouraged to focus on solutions. Prevention is emphasized, as is empowerment of teachers and families.

The program involves the development of more inclusive school governance structures through three overlapping teams. First, a School Planning and Management Team (SPMT) is established to determine the needs of the school and set the agenda for school improvement. This team consists of 12 to 15 members and includes teachers, support staff, and parents. Its function is to develop and monitor the implementation of a comprehensive school plan that includes goals related to academic achievement, climate, staff development, and community relations. Critically, the team is expected to reach closure on every issue discussed. In this way, action rather than just talk is encouraged (Anson et al., 1991).

The second element of all SDP schools is a mental health team or student and staff support team that includes child development and mental health specialists (e.g., school psychologist, counselor, nurse, social worker). This team meets weekly to plan and monitor interventions regarding specific concerns raised by teachers and to develop school-wide activities/interventions designed to prevent behavioral problems. One member of this team also serves on the SPMT, encouraging communication and mutual support between the teams.

Finally, all SDP schools have a parent program or parent team designed to involve parents in all aspects of the school community. Several levels of participation are encouraged, with multiple options embedded in each level. Most or all parents (50–100%) are expected to participate in the educational community by ensuring homework completion and school attendance. School functions are developed that encourage an improved school climate and parent-teacher relationships. As relationships improve, attention is given to the exchange of information between parents and teachers through newsletters and conferences. A smaller but still substantial number of parents (10–50%) are expected to be physically present in the school each day, serving as volunteer or paid aides, helping with the physical care of the school building and grounds, or engaged in their own learning activities. Typically, SDP schools hire someone to serve as a liaison between the school staff and the parent volunteers, assisting parents initially in navigating the school system and in communicating effectively with teachers. Students benefit by seeing parents actively engaged in their own learning and supporting the learning of children. Teachers and parents benefit from developing closer relationships that lessen misunderstandings and stereotyping. Finally, a small number of parents (1–10%), representative of the larger community (e.g., ethnicity, gender, SES), are expected to participate in decision making and school policy through participation in the SPMT. Parents who are not interested in participating in this way (which may be the majority of parents) still see that parent opinions are respected at the highest levels of school decision making. This multilevel parent participation structure recognizes that families have different strengths, needs, and priorities, and provides multiple methods for family participation. Although all families are expected to participate in their children's education in some way, it is understood and respected that families differ in the participation styles that they choose.

In order for the program to be successful, the school staff must be committed to having parents involved at every level of school functioning through a comprehensive, well-planned program. Efforts must be made to develop trusting relationships and to empower all members of the school community to be part of making that community an effective one. Finally, the program must be continually evaluated and modified as needed so that problems are detected and rectified before relationships are damaged.

Benefits of the total School Development Program have been documented across many of the more than 200 schools in which it has been implemented. Haynes, Emmons, Gebreyesus, and Ben-Avie (1996) provide an excellent overview; only a few findings are highlighted here:

❑ In Prince George's County (MD), increases in California Achievement Test percentile scores were significantly greater in SDP schools than in the district as a whole. For example, at the third grade level, program schools showed gains of 18 percentile points in math (compared to 11 in the district overall), 9 percentile points in reading (compared to 4), and 17 percentile points in language (compared to 9).

❑ A study of fourth and sixth grade students demonstrated significantly higher scores among SDP students on the six self-concept dimensions of the Piers-Harris Self Concept

Scale after statistically controlling for pretest differences. The SDP students= self-ratings were significantly above those of the normative group on total self-concept.

- Analysis of the School Climate Survey completed by parents in one district showed significant positive changes in SDP schools over the course of program implementation. Parents in non-SDP schools in the same district reported significantly negative changes in the climate of their schools over the same time frame.

Slavin and Fashola (1998) note that supportive evidence for the SDP process has been more consistent for the school climate and self-concept outcomes than for academic achievement gains. Furthermore, significant site-to-site variation in success has been documented. This latter finding is unsurprising given that the success of the program rests in successful local collaboration rather than fidelity to a specific set of techniques. Research is ongoing to find the most effective ways to reproduce the model in new settings (Bass & Ucelli, 1995). Still, it must be recognized that in at least some impoverished schools the collaborative SDP process has successfully produced remarkable gains in student achievement and behavior, student and teacher attendance, and family participation.

Schools of the 21st Century—Problems associated with limited or low quality child care are well documented (Finn-Stevenson et al., 1998). The Schools of the 21st Century (21C) model addresses these issues by providing all-day, year-round childcare for preschoolers and before- and after-school care for students through age 12. These services are provided within school buildings. The 21C programs also typically include outreach services to parents beginning in the third trimester of pregnancy through a home visiting service and referral services. The program goal is to coordinate childcare, health, and educational systems in ways that support the healthy development of all families (Stern & Finn-Stevenson, 1999). Each 21C school adheres to the following guiding principles:

- Programs must provide universal access to child care, including a sliding scale with subsidies for low-income families;
- Program services are noncompulsory; families choose which if any services to use;
- All developmental domains (social, emotional, physical, cognitive) are addressed through high quality programming;

- All aspects of the program must be predicated on a partnership between families and schools; and
- Programs must provide support for childcare providers through training, benefits, and pay upgrades (Finn-Stevenson & Stern, 1997).

Importantly, from a collaboration perspective, 21C schools conduct needs assessments and adopt their own goals and methods of achieving them based on local needs and resources. Unique funding streams are identified and utilized within different districts. Further, the program is considered an integral part of the school mission, not an "add-on" function. Attention is given to communication and collaboration between preschool staff and school-age teachers, as well as with the participating families. Evaluation and refinement of program structures and methods are ongoing. Finally, the guiding principles of the 21C process are highly consistent with collaboration in stressing parental choice and family-school partnerships.

The 21C program is currently implemented in more than 500 schools across 15 states. A recent evaluation of the 21C implementation in two Missouri elementary schools (Finn-Stevenson et al., 1998) indicated that participating families spent less on childcare, experienced less parenting stress, and missed less work than families in control schools. Effects on student achievement were inconclusive. Although student achievement among participants was higher than that obtained in control schools, no differences were found between participating and nonparticipating students within the experimental schools. Thus, it is unknown whether achievement within participating schools was unchanged by the program or whether the program prevented achievement scores from declining among participating students.

Several implementation lessons were learned as a result of this evaluation study (Finn-Stevenson et al., 1998). It took as long as 4 years of continuing modification to get the program running smoothly. In part, this time line might have been lengthened by failure to include teachers in the planning process; therefore, there was a period of relationship building before teachers fully supported the program. Other planning issues that were neglected included space, noise, and scheduling issues. Again, earlier and more intensive involvement of teachers in planning might have resulted in these issues being more effectively addressed. Although certainly not a "quick fix," the 21C model has demonstrated effectiveness in making the school a center for comprehensive family support.

Putting Two Models Together: The CoZi initiative— Recall that in SDP schools, the school planning and management team develops, implements, and monitors a plan for school improvement. In concert with the other intervention teams in the school, structures are already in place that encourage communication, commitment, and attention to local needs. Thus it made sense to select an already functioning SDP school with a locally determined need for childcare and family support services as the first site for a combined program (Finn-Stevenson & Stern, 1996, 1997).

The Bowling Park School in Norfolk, Virginia was selected. This school serves 500 students who are predominantly African American, low income, and at risk for school failure. The SDP had been in place for about 4 years prior to implementation of the 21C process and had demonstrated success in improving student achievement by fifth grade. However, low readiness skills among kindergartners was considered an ongoing problem that might be successfully addressed by family support and childcare through 21C. The CoZi initiative was implemented through collaborative needs assessment, gradually increasing services, and ongoing training and evaluation for staff. The program eventually included a preschool program using the High Scope curriculum (see chapter 3, this volume), before- and after-school care, a home visitation program, a summer vacation program, GED classes, a family literacy program, and a school health clinic.

Outcome data are just emerging. Attendance rates and standardized test scores have risen among participating students. Anecdotal evidence from teachers suggests that preschoolers participating in the program enter kindergarten with better verbal, social, and decision-making skills than their nonattending peers. Process evaluations suggest that collaboration among team members is critical to solving practical problems of implementation. Teachers and parents report satisfaction with the program, and increased parental involvement in the school has been noted (Finn-Stevenson & Stern, 1997; Stern & Finn-Stevenson, 1999).

CONCLUSION

At the beginning of this chapter, collaboration was offered as a potentially useful mechanism by which outside expertise could be utilized in concert with the expertise of local families and pro-

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fessionals to develop and implement effective prevention programming. The CoZi initiative offers one of the clearest examples of this use of collaboration. Teachers and families develop their collaborative skills as part of this structure and then use those skills to bring in additional, more specific reform efforts as needed in a systematic, integrated way. Any of the model programs cited in this book could be adapted to fit local needs in a way that is completely compatible with existing CoZi efforts. Such programs would be selected carefully in line with predetermined priorities. The school would benefit from both outside and inside expertise in adapting the programs to local needs. All stakeholders would have a voice in revising and retooling the programs as needed. These processes are all supported by the careful implementation of genuine collaboration as outlined in the CORE model.

Although the CoZi model provides one structure for implementing collaborative approaches to preventing school problems, it is not the only means available to initiate more collaborative prevention activities in individual school settings. School psychologists and other educators can encourage such efforts by implementing the strategies outlined in this chapter. Such an effort would include the following steps:

1. Develop your knowledge of specific collaborative communication and problem-solving skills and use these skills in your work.
2. Develop a team of like-minded professionals interested in collaboration and prevention.
3. Systematically examine existing programs and resources.
4. Identify unmet needs and determine priorities using input from diverse stakeholders.
5. Develop and implement a set of coordinated prevention initiatives that build on existing strengths and resources.

Programs and strategies included in the chapters of this book provide the external expertise for developing effective prevention initiatives. Motivated individuals within schools provide the internal expertise for translating this knowledge to fit local conditions. By implementing these strategies in a collaborative manner, school psychologists can become catalysts for change.

RECOMMENDED RESOURCES

Epstein, J. L., Coates, L., Salinas, K. C., Sanders, M. G., & Simon, B. S. (1997). *School, family, and community partnerships: Your handbook for action*. Thousand Oaks, CA: Sage.

This practical book offers step-by-step strategies for improving family-school-community partnerships. Schools setting up "action teams" targeting these partnerships will find this book invaluable.

Fullan, M. (1999). *Change forces: The sequel*. Philadelphia, PA: Falmer Press.

Fullan presents educational reform through the lens of complexity (chaos) theory and evolutionary theory. He highlights the ways in which conflict and diversity can be used as positive forces for change and provides guidance on being a "critical consumer" of educational reforms.

Schorr, L. B. (1997). *Common purposes: Strengthening families and neighborhoods to rebuild America*. New York: Anchor.

This comprehensive volume cites a number of successful social programs and highlights how model programs can be expanded "beyond the hothouse" and into large-scale interventions.

Swap, S. M. (1993). *Developing home school partnerships: From concepts to practice*. New York: Teachers College Press.

This volume focuses on family-school relationships and provides direction on how to increase two-way communication, provide mutual support between families and teachers, and increase joint decision-making.

http://pfie.ed.gov/

Visit the web site of the Partnership for Family Involvement in Education for a guide to multiple resources on involving families more effectively in education. Publications are available on a variety of topics including mentoring programs, business-school partnerships, and family-school partnerships.

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Educators and mental health service providers know that many chronic student problems - aggression, poor school performance, substance abuse and delinquency - are preventable. However, most professionals working with troubled youth are far better versed in remediation and intervention than in prevention strategies. This practical, yet research-based, book will assist both school- and community-based professionals who wish to become more proactive in their work. Written by leading experts on the respective topics, each chapter presents effective, empirically supported strategies to prevent student problems. Chapters also outline one or more model programs that illustrate how these strategies can be applied. Topics addressed include:

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By focusing on truly preventive strategies, the book complements NASP's other publications: *Children's Needs, Best Practices,* and *Interventions.* It is designed to be useful to seasoned practitioners as well as students and new professionals facing particular issues for the first time. The book also is a valuable resource for graduate classes in community psychology, educational leadership, and school psychology.

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